MANUAL OF GARDENING

FOR

WESTERN AND SOUTHERN INDIA.

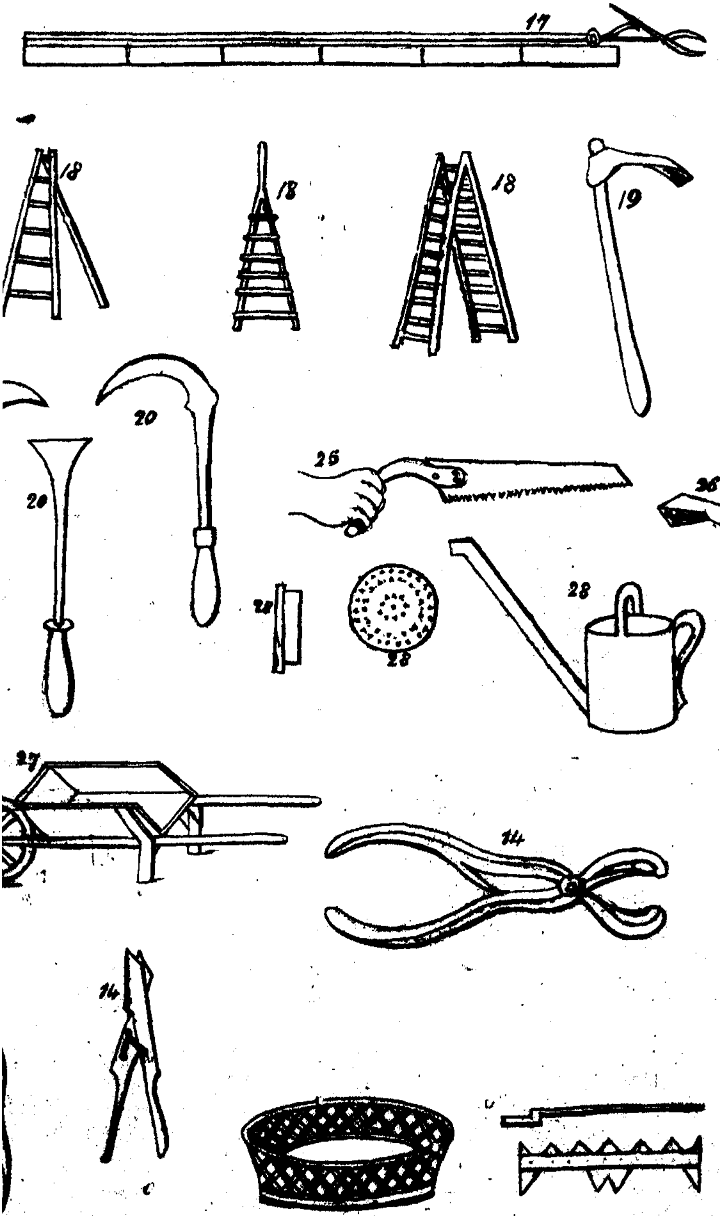
PREFACE.

Although upwards of one hundred pages have been added to the present Edition of this work, the Author cannot but feel how incomplete it is, still he trusts that it will be found a useful guide to those persons seeking for such information as it professes to give on the subject of Gardening generally throughout Southern and Western India.

The Wood cuts will, it is hoped, be found an improvement, as also the alphabetical arrangement of the Scientific names in the Floricultural and Horticultural departments, thereby doing away with the several Indexes which were in the former Edition.

The Plates were engraved by the Pupils at the School of Arts at Madras, which is under the Superintendence of Dr. Hunter, to whom the Author begs to tender his best thanks and acknowledgments for his kind and valuable assistance in passing this edition through the Press, thereby greatly enhancing its value, besides rendering it more complete and perfect than the former.

Grafting can so seldom be practised with success in this climate, that the Author has refrained from introducing any lengthened description of the process; but a Plate is given of the various modes as followed in Europe, by which an Amateur may easily be guided in any attempt he may wish to make, should situation or circumstances offer a probability of success.



Artificial borders *Tiles*

DESCRIPTION

OF

TOOLS, AND THEIR USES.

AXE OR PICK (*vide Fig.* 1.)—Is used for loosening hard ground or gravel, and also for cutting roots in felling timber. The metal part should be of the best iron pointed with steel, one end wedge-shaped and sharp, the other round and pointed: the handle ought to be formed of strong sound wood.

BILL HOOK OR PRUNING BILL (*vide Fig.* 2.)—These instruments are of a variety of shapes, and are much used by Natives,—the blades generally curved and differing in length: some are sharp on one side only, others on both. The handles also vary in length, according to the purpose for which they are intended, so as to allow the operator's arm and wrist a free action.

BLEACHING POTS (*vide Fig.* 3.)—Are merely earthenware cones, of about six inches in diameter at bottom and four at top—length from 9 to 18 inches. They are used for covering celery and salad, also for young plants.

BEETLE OR RAMMER (*vide Figs.* 4 & 5.)—Is a large heavy piece of wood of any shape, with a flat surface, and bamboo or other handle attached, for the purpose of flattening walks, &c.

BROOM.—This is a bundle of twigs, used by the hand for sweeping with.

BUDDING KNIFE (*vide Fig.* 29.)—Differs from the grafting knife in having the point of the sharp edge of the blade rounded off in the same manner as is the back on the blunt edge of the grafting and pruning knives: it has also a thin wedge-shaped ivory or bone handle, for raising up the bark; but according to the Native plan of budding, any knife will answer.

DIGGING HOE (*vide Fig.* 6.)—This is a powerful instrument, with a handle like a spade, and is well adapted for stirring the ground among flowers or plants.

DIBBLE (*vide Fig.* 7.)—Is simply a short piece of cylindrical wood, from a foot to eighteen inches long, obtusely pointed, and having a spade-like handle at the other end.

FLOWER POTS (*vide Fig.* 8.)—Are of many varieties in shape and figure. The common pot should be a cylindrical tapering vessel, made of burnt clay, with a perforated bottom: in size they should vary from a pint to many gallons, so as to suit the most minute plant or a full grown shrub. It should be of a conical shape, to admit freely the removal of the plant with a due proportion of earth, so that the suckers of the roots may not be injured. An annular flower-pot saucer, intended to defend plants placed in the centre, from ants, &c., may be made, and the annular channel filled with water.

FRENCH FLOWER POTS (*vide Figs.* 9 *&* 10.)—Instead of one hole in the centre of the bottom to admit water and drainage, they have also others. The under sides of the bottoms are concave, by which means the water is never retained between the pot and the surface on which it stands. A grooved bottom pot is also used for the same purpose.

FRUIT PRESERVERS—are made either of basketwork or earthenware: if of the former, they should be of an orbicular shape, made with split bamboo or wicker work, size a little larger than the full grown fruit, to be tied over it as a protection from birds: they are also made of baked clay, and sold in most bazars.

FUMIGATING BELLOWS (*vide Fig.* 12.)—Differ from the common domestic bellows in having a receptacle for leaves of tobacco, which being ignited, and the blast sent through it, a powerful issue of smoke is produced by the rose, which can be directed against insects on any particular plants. A detached fumigator may also be added to a common pair of bellows, and may easily be constructed by any brass-smith.

GARDEN TROWEL (*vide Fig.* 13.)—A small instrument, very much like those used by masons, the blade being a little circular.

GARDEN WATER-ENGINE.—For showering water upon beds or parterres: moveable upon wheels, and of a capacity sufficient to contain several gallons of water.

GRAFTING KNIFE (*vide Fig.* 26.)—Differs from the common pruning knife in having a thinner and more narrow blade, fixed in a bone or horn handle.

Gathering Scissors (*vide Fig.* 14.)—Are used for cutting off a flower or bunch of grapes, holding either after separation.

Hoes (*vide Fig.* 15.)—Are useful for loosening weeds, stirring the soil around the plant, closing up the soil about their stems, and for making drills to sow seeds; and lastly, for spudding up weeds in walks, &c.

Hedge Shears (*vide Fig.* 16.)—Are composed of two blades acting in unison by means of a pivot on which they turn: they are chiefly used for trimming hedges, but where the twigs or shoots are strong, the hedge bill or pruning shears are preferable.

Ladders (*vide Fig.* 18.)—These are of several descriptions; the principal ones for use in a garden are the three styled, forked, and double ladders, both for pruning and gathering fruit.

Long Pruning Shears (*vide Fig.* 17.)—This is a compound blade attached to a handle from five to eight feet in length, and operating by means of a lever moved by a cord and pully: its use is to enable a person standing on the ground to prune standard trees, which it readily does from its length of handle.

Mallet.—A beater or mallet of wood, used for pulverising clods of earth or other substances.

Mattock or Hoe Axe (*vide Fig.* 19.)—This instrument is used for breaking up the earth, and for grubbing up the roots of small trees or bushes.

Native Hoes, Nuranee and Koorpah, (*vide Fig.* 20.)—These two instruments for weeding are quite suited for natives, who squat down to their work almost on every occasion.

Pins and Line.—The garden line is composed of three parts—the frame, generally of iron, the cord, which is wound upon the frame, and the pin, which terminates the cord. The common use is perfectly understood from the name. It may also be applied, by means of pegs or small stakes, to form curved lines.

Plough.—The common native plough, a most cumbersome-looking instrument, is the only one generally used in gardens, and the only one likely to be for some time.

Powrah (*vide Fig.* 28.)—This is the common native digging hoe, being a thin broad wedge of iron, having either a wooden handle attached, or else made of iron throughout.

Propagation Pots (*vide Fig.* 11.)—Have a slit in the side, from the rear to the hole in the bottom, the use of which is to admit the shoot of a tree for propagation, by ringing in the Chinese man-

ner. Opposite to the slit is an ear or round appendage, with a hole for hanging the pot to a branch. To those who practise this mode of rooting shoots, without laying them down to the ground, such pots will prove very convenient. They may be made of wood or tin for the same purpose.

Pronged Hoe (*vide Fig.* 21.)—This hoe is only used for weeding.

Pruning Hook.—A small sharp-edged Pruning Hook, made to attach to a bamboo or stick shaped with a curve like a boat-hook, for cutting fruit, flowers, or branches.

Rake (*vide Fig.* 23.)—The garden rake consists of a range of teeth inserted in a straight bar of iron or wood from six to eighteen inches in length, and attached at right angles across the end of a handle: they are used for covering seeds, smoothing surfaces, or raking off weeds, &c.

Ringing Knife.—This is a double-bladed knife, exactly resembling a double-bladed penknife: when open, the latter article will answer every purpose.

Shade-Baskets or Pots—are baskets or pots of a conical shape or form, for protecting from the sun young plants when first put out: they should be removed towards the evening, and replaced in the morning, for three or four days. Two half tiles answer the same purpose.

Saws (*vide Fig.* 25.)—Essentially necessary: they should be of various sizes.

Spade.—This article is of very little use except for Europeans, as it cannot be properly worked unless the person wears shoes.

Spud (*vide Fig.* 24.)—A straight hoe for weeding.

Transplanter (*vide Fig.* 26.)—Formed of two semi-circular pieces of iron, with a cross handle. It is thrust into the ground on each side of the plant, and the earth is by that means drawn up with the root.

Wheel Barrow (*vide Fig.* 27.)—This is a useful and economical article, and no garden should be without one.

Watering Pots (*vide Fig.* 28.)—Are of all sizes: they may be made of copper, tin, or even earthenware; if of tin, they should have wire inserted into the edges, rims, and handle; the rose may be flat or round, with the holes neither too large nor too many, a destructive volume of water being the result; the rose should always fit on tight to the spout.

GLOSSARY OF TERMS, ETC.

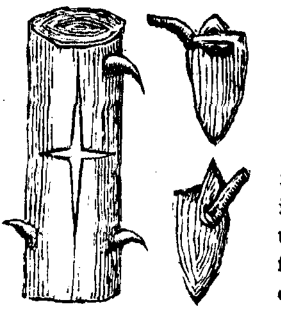
ALBUMEN—is a thick, glairy, tasteless, fluid, resembling the white of an unboiled egg; and is a substance deposited in the cells of vegetables. It abounds in the papaw (Carica papaya) tree; it also exists in the seeds of many plants, and in the fungi.

BLANCHING OR ETIOLATION.—The process of whitening plants, by which we deprive them of much of their bitter quality. It is performed in several ways—either by earthing them up so as to exclude the light and air, or by covering them over with boards, which is a bad plan in this country; or else by placing over the plant earthenware pots, open above and below, and filling up the space at the bottom with dry sand,—but I by no means recommend doing the latter, as it gets between the leaves, and is sometimes difficult to remove. A couple of half circular tiles, placed round the plant, with the earth brought up around it, is the method I generally pursue. Salad only requires that the leaves should be brought together and tied with plantain leaf or other substance, and if rain falls, the leaves must be occasionally opened and the water shaken out, else they soon decay.

BLIGHT.—A common term for injuries received by the vegetable kingdom when in a state of growth, which cannot always be referred to any obvious or certain cause, and coming suddenly, is said to give them the appearance of being blighted. Attacks of insects, fogs, clammy weather, and frost, are said to be some of the causes.

BUDDING—should be performed in the morning or evening: the natives give the preference to the last and first quarter of the moon for the operation. The cuttings from which buds are taken should be from healthy trees, and such as have borne fruit. The best season for buddings is at the commencement of the rains, and during the cold weather, though much will depend upon the state of the tree from which you take your bud, and the forwardness of the stock on which it is to be inoculated,—whether the sap is rising in it, and the bark separates with ease from the wood when opened.

Process.—Provide yourself with a good sharp knife, (*vide Fig.* 29 and shreds of linen tape, or plantain leaf, about one-fourth of an inc in breadth; also have a thin blunt piece of flat ivory or bambo cut round or smooth at the end, for introducing between the bar and separating it from the wood. Having your knife, shreds, an cuttings, ready, you are to proceed in the following manner.

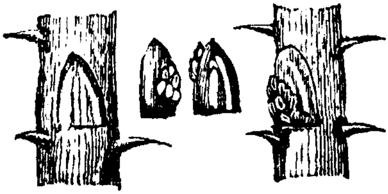


With your knife make a cross cut i the smooth part of the bark, rind of th stalk, and be careful to make it n deeper than the bark; let another b made down the centre about two inche long, so that the two cuts form th figure of the cross, in which the bu is to be inserted. Then from your cut tings or shoots take off the bud in th following manner: begin at the lowe end of the shoot, having removed al the leaves, but leaving a small part o the stalk remaining; then about an inch below the lower bud or eye, make a cross cut in the shoot, half way through, in a slanting direction, carrying the cut upwards in a clean manner to about half an inch below the bud; here separate it from the stall with a cross cut; then with the point of your knife clear away th wood inside from the rind, very gently, and observe if the inside o the eye of the bud be left; for if there appears a small hole the eye is gone, and the bud for insertion useless, therefor take another, and when ready, insert it immediately in the stocl prepared for its reception. Be careful to place the bud in th centre of the perdendicular slit from the cross above, observing that the bud is in no ways injured or pressed upon by th sides or the bark of the stock; then let that part be immediatel bound round with the tape, or shreds, beginning a little belov the cut and proceeding upwards, drawing it *closely* round to the top of the slit, but carefully observing that the eye of the bud is not included or pressed upon. When you have thus surrounded the whole, bring the end through a slide of the fastening and leave it: thus the operation is done. A piece of plantai leaf tied about four inches above the bud, so as to drop over it will shade it from the sun and promote its growth. In the course of a fortnight, you will be enabled to judge if it has taken, by its full and green appearance; if otherwise, it looks black and

shrivelled. When the shoot is six or eight fingers long you may then cut off the heads of the stocks, leaving about two inches above the insertion of the bud.

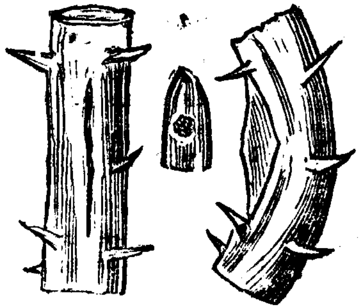
Shield Budding or T budding differs from the preceding merely in the form of the incision.

Observe, as soon as your buds have shot out strong, that you loosen the bandages below, suffering the upper to remain a short time longer; hemp or string should on no account be used, as they cut through the rind and injure the growth of the shoot.



In Niche budding the incision is made in the form of an inverted U, this mode is applicable to rose bushes.

A bud of sweet brier grafted on the stock of a Rose Edwards threw out a shoot full three inches long in the course of twenty days after the bud was first tied on, in the month of February, at Hyderabad, in the Deccan.



Native Method of Budding.—This is very simple, and in general most successful. An incision of the length required is made perpendicularly in the stock; they then take hold of it with their hands, both above and below the cut, and bend the stock forward towards them, the bark is thus separated and forms an opening sufficient to introduce the bud, which is placed in its right position, the stock is then allowed to regain elasticity, and the bark or rind closes tightly round the bud: a ligature of plantain leaf shreds is bound

round the perpendicular incision, omitting of course the bud, and allowing it free space to grow, no cross cut being required.

When you remove these plants into the situations in which they are to remain, and they appear to have taken root well, then you may cut off the head of the stock in a slanting direction, near the bud, in a clean and careful manner.

Circulation of Water in Soils.—It is necessary for the due nourishment of plants, that the water by which soils are moistened have a proper movement or circulation. When the soil is so loose and porous as not to retain moisture, the circulation is too rapid, so that the water is carried off before it can be taken up by the root fibres and conveyed to the plants, on the other hand, when the soil is stiff and compact so as not to allow the water it imbibes to circulate, the mouths of the minute tubes are pressed upon and obstructed, so that no nourishment obtains admission, both conditions are of course detrimental. If a soil is very porous, the water naturally sinks into it and moves towards the bottom, which, if not of a firmer texture, the water will naturally drain away; and as the heat expands the water nearest the surface into vapour, and raises it into the air, as soon as by this means the surface becomes dry, the moisture below will gradually rise in the same way, leaving little or no further nourishment for the plant. But again, if in such a soil there is at a little depth, of two feet or so, a stiff clay or rock, the water then settles, and being out of the reach of the sun's influence to raise it, it becomes necessary to drain it off, otherwise, for want of circulation, it becomes deleterious to the growth of the plant: water should never be allowed to stagnate round plants, but always have a free movement or circulation, otherwise the mouths of the suckers become pressed upon and obstructed, and of course the nourishment is checked in its progress. Water, when stagnated, soon becomes exhausted of the nutritive material with which it may have at first been mixed and it then becomes destructive.

Clearing of Fruit Trees, &c.—This is a very necessary part of the business of a gardener who wishes his trees to look well and produce a good crop of fruit. In the first place, keep all the space round your trees, if possible, clear of weeds, which only can be done by cutting and hoeing them up, and then removing the same—or scatter under your trees a small quantity of hemp stalks; this not only prevents the growth of weeds, but, when

it decays, forms a very beneficial manure. All dead branches should be cut away in a smooth manner, either with a saw, or knife, and suckers never allowed to spring up from the roots, unless wanted for stocks. Another important thing to attend to, is, to observe if any insects have bored holes in the woody part of the trees, and which may immediately be known by seeing their holes, or a quantity of dry saw-dust, in appearance, hanging by light filaments of thread from the entrance, in which an insect like a caterpillar has taken up its quarters, and will be found working its way either into the sap of the tree or along the bark, both of which are equally injurious; it is necessary to remove them as soon as possible. The method to effect this is very simple. Provide yourself with a strong infusion of assafœtida, and some dough made with common flour and water: pour a small quantity of the infusion into the hole, enough to fill it up; then after having removed all the dirt round it, stick a small piece of the dough, about the size of a pigeon's egg, over the hole, and let it remain. In the course of an hour or two, if you take off the dough, you will find the insect to have embedded itself in it. This plan answers when you have other work in hand and cannot wait the result of the infusion which has been put into the hole: if you can, generally in a few minutes, if the insect is there, you will observe a bubble in the mixture; this is occasioned by the insect moving, and shortly after it will be seen crawling up to the top, presenting a thick horny head: then, with a long pin, or thorn, gently run it slanting through the neck and give the insect a sharp twist out. They are sometimes two or three inches long, and very destructive, as they attack every fruit-bearing tree, as well as others. When insects infest the leaves of trees, they must either be picked off, or destroyed by smoking the tree. Sulphur thrown on burning charcoal is a very effective method of destroying insects; the fumes must be allowed to pass over the branches. A pound of sulphur will suffice for very many trees.

Colour of Flowers.—The colour, smell, and nutritive qualities of plants, depend for their production chiefly on the action of light. The propensity of plants to turn to the light depends solely on the hardening and stiffening of one side, whilst the other remains soft and pliable; the side exposed to the light has its moisture carried off by evaporation, and is rendered more firm, contracted, and shorter, than the one less exposed.

Composts.—Are mixtures of several earths, or dungs, for the im-

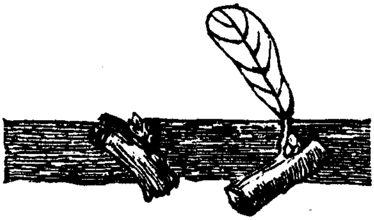
provement of the general soil under culture, or for the culture of particular plants. In respect of composts for the amendment of the general soil of the garden, the quality must depend upon the natural soil; if this be light, loose, or sandy, it may be assisted by the addition of heavy loam, clays, &c., from ponds, tanks, and ditches. On the other hand, heavy clays and stubborn soils may be assisted by light composts of sandy earth, all kinds of ashes, rotten bark, saw-dust, and other similar opening materials that can be procured.

COMPOSITION FOR WOUNDS IN TREES.—The following composition, prepared after the recipé of Mr. Forsyth, has been found to answer extremely well: old fruit trees, such as the mango, frequently derive benefit by having the composition applied, after removing the cankered and decayed parts. It may also be applied to the end of cut branches when pruning trees:—"Take a large basket of fresh cowdung, half a basket of fine lime rubbish from old buildings, half a basket of woodashes from the kitchen, and about four double handsful of the finest sand procurable: the last three articles must be well sifted and mixed together, working the whole up with a powrah or beater until it is quite smooth; then lay on the plaster about one-eighth of an inch thick, all over the part where the wood or bark has been cut away, finishing off the edges to a thin surface." "Then take a quantity of dry powder of woodashes, mixed with a sixth part of the same quantity of burnt bones. Sprinkle this powder over the surface of the plaster till the whole is covered over with it: let it remain to absorb the moisture, then apply more powder, gently rubbing it with the hand till the whole plaster becomes a dry surface."

CUTTINGS.—Propagation by cuttings is simple, and generally successful with fast growing hardy shrubs, such as the Laurel, Grape, Fig, &c., but with many others, such as the Myrtle, Cypress, &c., it is one of the most delicate and difficult modes of continuing the species. The subject must be considered as to the choice of cuttings, their preparation, insertion in the soil, and future management.

CUTTINGS, CHOICE OF.—Those branches of trees or shrubs thrown out nearest the ground, and especially such as recline, or nearly so, on the earth's surface, have always the most tendency to produce roots: even the branches of resinous trees, which are extremely difficult to propagate by cuttings, when reclining on the

ground, if accidentally covered with earth in any part, will often throw out roots, as in the Fir, Cypress, &c.: cuttings should therefore be preferred from those shoots nearest the stem and ground. The proper time for taking cuttings, is when the sap is in full motion, in order that, returning by the bark, it may form a callus or protruding ring of granular substance between the bark and wood, whence the roots proceed. As this ring is generally best formed in ripened wood, the cutting, when taken from the mother plant, should contain a part of the former year; or in plants which grow twice a year, of the wood of the former growth; or in evergreens, such wood as has begun to ripen or assume a brownish colour. This is the true principle as to the choice of cuttings as to time, but there are many sorts of trees the cuttings of which will grow at any season in India, if protected from the hot land winds. In some plants, where the sap is comparatively at rest, the principle of life is so strong, and so diffused over the vegetable, that very little care is requisite for their propagation. Cuttings from herbaceous plants should be chosen from the low growths which do not indicate a tendency to blossom, but they will succeed in many cases from the flower stems, and border flowers, as the Dahlia, Rocket, Wall-flower, Nasturtium, &c.

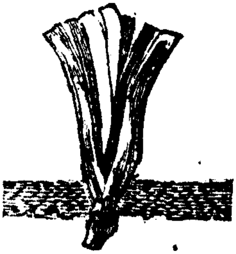


The preparation of Cuttings is guided by this principle, viz. that the power of protruding buds or roots resides chiefly, and in most cases entirely, in what are called the axillæ or joints, where leaves or buds already exist: hence all cuttings should be evenly cut across with the smoothest and soundest section possible at an eye or joint; and the choice of a bud should be in wood somewhat ripened or fully formed, and the section should be made in the wood of the growth of the preceding season, or as it were, in the point between the two growths. It is true that the cuttings of some plants, such as the Grape, Mulberry, &c., not only throw out roots from the ring of granulated matter, but also from the sides of every part of the stem inserted in the soil; but all plants which are difficult to root, such as Heaths, Camellias, Oranges, &c., will be found in the first instance to throw out roots only from the ring of her-

baceous matter above-mentioned: and hence the necessity of properly preparing the cuttings. It is not a good practice to take off the whole of the leaves of cuttings, as the leaves in many instances supply nourishment to the cutting until it can sustain itself. Leaves alone in some instances, will strike root, and form plants.

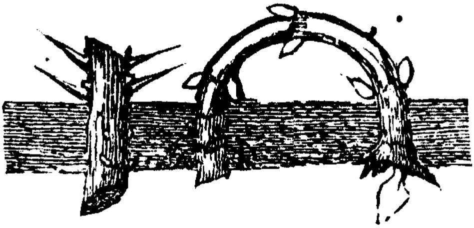
Cuttings which are difficult to strike may be rendered more tractable by previous ringing. If a ring be made on the shoot which is to furnish the cutting, a callus will be created, which, if inserted in the ground after the cutting is taken off, will freely emit roots. A ligature would perhaps answer the same purpose. The amputation, in case of the ring or ligature, must be made below the circles, and the cutting must be so planted as to have the callus covered with earth.

The insertion of Cuttings—may seem an easy matter, and none but a practical cultivator would imagine that there could be any difference in the growth between cuttings inserted in the middle of a pot and those inserted at its sides. Yet such is actually the case, and some sorts of trees if inserted in a mere mass of earth, will hardly, if at all, throw out roots, while if they are inserted in sand or in earth at the side of the pots, so as to touch the pot in their whole length, they seldom fail of becoming rooted plants. Some cuttings will be found to strike more easily if their lower ends are placed on a piece of broken pot or tile, or when touching a stratum of gravel; therefore with cuttings which are found difficult to strike root, it is advisable they should be so laid in pots as to be made to touch the bottom. A large tumbler or glass Bell jar placed over a cutting, if small, will often facilitate its growth.



The management of Cuttings.—No cutting requires to be planted deep, though such as are large ought to be inserted deeper than such as are small. In the case of evergreens, the leaves should never touch the soil, otherwise they will rot off from damp: a leaf lying with its under part on a wet soil, or on water, will decay and rot as fast as if plucked and exposed to the sun; and the same difficulty occurs in the case of tubular-stalked plants, which are not in general very easily struck, owing to the water lodging in the

tube and rotting the cutting. Both ends of a cutting may in some cases be inserted in the soil forming a half circle in this manner, besides, with a greater certainty of success, two plants will be produced.



Too much light, air, water, heat, or cold, are alike injurious, and to guard against these it is useful to enclose an atmosphere over the cuttings of tender plants by the means of a bell or hand glass. This preserves a uniform stillness and moisture of atmosphere. Immersing the pots in earth (if the cuttings are in pots) has a tendency to preserve a moisture to their roots; and shading or planting the cuttings, (if in the open air) in a shady situation, prevents the bad effects of the excess of light.

Descent of the Sap.—The simple fact with respect to leaf buds and branch buds seems to be that they are expanded in spring by the sap, and when sufficiently so to permit the air and light to convert this into pulp, it descends into the bark at their base, but it is not until the leaf is fully expanded that any new wood is or can be formed; consequently it is the leaf, not the leaf bud, which is the chief agent in this process.

Destroying Insects on Vegetables, &c.—Sprinkle the leaves over with very fine pounded sulphur tied up in a muslin bag, or with woodashes from the kitchen. Fumigate also trees with tobacco smoke, or sprinkle the leaves with a solution made after the following manner: to three parts of lime add one of sulphur, and boil both together in one hundred parts of water: you may also soak seeds in this to preserve them.

For destroying White Ants, take a bundle of the twigs of the Sarcostemma Viminale; put it into the trough of the well by which the bed or field is watered, along with a bag of salt, hard packed, so that it may only dissolve gradually. Water so impregnated destroys the ants without injuring the crop. Dry twigs answer as well as green. This plant abounds in the Deccan, in Gogah and the coast of Kattywar.—*Hind.* name, Soom.

Dew—is the moisture insensibly deposited from the atmosphere on the earth. The moisture is precipitated by the cold of the body on which it appears, and will be more or less abundant—not in proportion to the coldness of that body, but—in proportion to the existing state of the air in regard to moisture. It is commonly supposed that the formation of Dew produces cold, but, like every other precipitation of water from the atmosphere, it must evidently produce heat.

Digging.—This is almost always performed by the Pickaxe, and is the most effectual method (the spade never being used by natives). When the ground will admit, the plough, probably, is a quicker method. The earth thus turned up admits of being easily worked, and the clods knocked to pieces, the plough also turns out the weeds, only that it is apt to disturb the roots of trees in the neighbourhood, and the bullocks injure the trees themselves.

Earth and Soils.—Earths are the production of the rocks which are exposed on the surface of the globe, and soils are earths mixed with more or less of the decomposd organized matter afforded by dead plants and animals. Earth and soils therefore must be as various as the rocks which produce them. The surface earth, or that which forms the outer coating of the dry parts of the globe, is formed by the detritus of worn off parts of rocks, and rocky substances. Earths are therefore variously composed, according to the rocks or strata which have supplied the particles. Sometimes they are formed from slate rocks, as in blue clays; at other times from sand stone, as in siliceous soils; and mostly of a mixture of clayey, slatey, and limestone rocks, blended in proportions as various as their situations. In process of time the decay of vegetables and animals form additions to the outer surface of the earth, and constitute what are called soils. As soon as the smallest layer of earth is formed on the surface of a rock, the spores of Lichens, Mosses, and other Flowerless plants, which are constantly floating in the atmosphere, and which have found a resting place, begin to vegetate; their death, decomposition, and decay, afford a certain quantity of organizable matter, which mixes with the earthy materials of the rock. In this improved soil more perfect plants are capable of subsisting. These in their turn absorb nourishment from water, and the atmosphere, and after perishing, afford new materials to those already provided. The decomposition of the rock still continues, and at length, by such

slow and gradual processes, a soil is formed in which even forest trees can fix their roots, and which is fitted to reward the labors of the cultivator.

EARTHING UP.—This is performed by the hand and a small spade, or with a large sized hoe; it consists in turning up the ground round the stocks of plants, so as to support and nourish them,—a thing very essential to the growth of all kinds of vegetables, potatoes, peas, beans, &c.

ESCULENT ROOTS—delight in a light, rather sandy, deep and well stirred soil. It must be dry at bottom, but a moist atmosphere and moderate temperature are greatly favorable to the growth of them.

ESPALIER TREES.—Such as are suitable for, or are planted against rails or upright trellis-work, which are much more suitable for India then walls.

ETIOLATION.—A disease of plants which destroys their verdure and renders them pale: it arises from the want of the agency of light, and may also arise from the depredation of insects nestling in the radicle, and consuming the food of the plant, and thus debilitating the vessels of the leaf, so as to render them unsusceptible of the action of light, for on examining with a microscope, the leaves of peas and other plants in this state, the meally greyish appearance evidently arose from eggs and excretions deposited upon them by a minute greenish coloured insect which was seen feeding, and moving in every direction upon their surface; this readily accounts for the destruction of the stem and plant. A similar appearance was observed on Mango blossoms and leaves after a succession of cloudy days.

EXPOSURE AND SHELTER.—Solitary trees become greatly larger than those that are crowded, whilst their roots are always proportioned to the branches, the same is true with regard to nearly all garden plants, which extend in proportion to their room; hence the necessity of wide planting when trees or shrubs with spreading heads are set out to grow.

FOOD OF PLANTS.—Vegetables cannot live without a supply of food, and are incapable of moving to look for it. The food of all plants varies but little.

The difference between some garden plants and others is in their greater delicacy; hence the nourishment given to them requires only a little more delicacy in its preparation.

Young plants require, on first germinating from seed, a different nourishment than when more advanced,—after they have exhausted the nourishment in the seed lobes and seed leaves. Plants derive their nourishment from two sources, the earth and the atmosphere, but principally from the soil through the roots. It is chiefly in the form of water holding various solid matters in solution that the nutritive matter of the soil is received by the roots, which are furnished at their extremities with spongioles or sucking mouths possessing an amazing power of absorption.

Fibrine—is a peculiar substance which chemists extract from the blood and muscles of animals. This substance constitutes the fibrous part of the muscles, and resembles gluten in its appearance and elasticity, and a substance possessing the same properties, has been found by Vauquelin in the juice of the Papaw tree: it is called vegetable fibrine.

Germinating of Seeds.—Some seeds, such as Coffee, require to be sown immediately on being gathered, otherwise the nutrient matter contained in the shell becomes too hard to be dissolved in water. Seeds gathered before they are quite ripe, germinate sooner than very ripe ones; because the nutrient matter is less hard, and more easily diluted with water. But though seeds when gathered before they are quite ripe, germinate sooner, it does not follow that they will produce the best plants.

Gluten—is that part of the paste formed from the flour of wheat that remains unaffected by the water after all the starch contained in it has been washed off. This is a tough and elastic substance, of a dark white colour, without taste, but of a very peculiar smell: it is found in fruits and grain such as Peas, Beans, Barley, Acorns, Chesnuts, Apples, Quinces; also in leaves, such as Cabbage, Cresses, Saffron, &c.; and also in the petals of the Rose; and is the most important of all vegetable substances.

Grafting.—The most common method, and in general use in the Deccan, is by approach, although crown and stock-grafting are both practised by the gardeners in Bombay and Salsette: the latter is done by making a hole in the bark of the stock and inserting the scions therein while the tree is growing, but nine out of ten generally fail.

Different modes of Grafting.

Haum or Haulmn.—The lower part of the straw after the ears are cut off: in gardening the term is generally applied to leguminous vegetables after their produce has been gathered.

Heading.—The growing of the leaves of a plant into a roundish head or loaf.

Heat—is essentially necessary for the growth of plants, as it is obvious that no plant could take up frozen liquids. The process of fermentation and putrefaction, by which are produced the supply of Carbonic Acid gas, Humic acid,* and Azote, is indispensible to vegetation, as it cannot go on without it.

Herbarium.—The dried plants far surpass either drawings or descriptions, in giving complete ideas of their appearance. When plants are well dried, the original forms and positions of even their minutest parts (though not their colours) may at any time be restored by immersion in hot water. The mode or state in which plants are preserved is general desiccation, accompanied by pressing. The greater part of plants dry with facility between the leaves of books or blotting paper, the smoother the better. If there be plenty of paper, they often dry without shifting, but if the specimens are crowded, they must be taken out frequently, and the paper dried before they are replaced. Some vegetables are so tenacious of their vital principle, that they will grow between papers; the consequence is a destruction of their proper habit and colours. It is therefore necessary to destroy the life of such by immersion in boiling water, or by the application of a hot iron such as is used for linen, after which they are easily dried. The herbarium should be kept in as dry a place as possible, and free from insects.

Hybridization.—The process though very simple requires much care and attention as well as patience.

In the first instance, it consists merely in applying the pollen of the flowers of one variety to those of another of the same species. The strange pollen grain resting on the stigma of one of the latter flowers, in process of time, puts forth a microscopic tubule, and penetrating the tissue of the stigma it finally reaches the ovule to which it communicates the principle of life. The ovule finally matured is a seed—in this instance a seed borne of one flower and receiving the vital principle of another. Several precautions are necessary to a successful issue. The flower

* Humic acid—the principal ingredient of all manures.

in which the operation is to be performed, must be depriv-ed of its own anthers before the pollen they secrete is matur-ed and fitted for its functions in the vegetable organism. In some flowers, in which the ripening of the pollen takes place before the expansion of the flower, this is almost impossible, as the flower in such case must be torn open while it is yet un-expanded; in others it may be managed by using a very deli-cate pair of lady's scissors. Selecting a flower of another varie-ty of the species the pollen of which is just ripe or nearly so, *it may be removed by a fine camels hair brush from the an*-thers and transferred to the stigma of the first flower. It is then customary amongst some cultivators to tie a little bag of fine gauze or muslin over the flower thus treated to prevent the application of any other farina, by the intervention of insects, or the wind which might interfere with the result. Others are again content with the simple ticketing so as to be able at seed time to distinguish the flower. The usual process then goes on, the flower fades, and in time ripens when it must be carefully collected and stored up in a marked box.

Hortus Siccus.—After having collected as good a specimen as possible of the plant, lay it flat, disposing of it in the best manner, betwixt sheets of white paper, so that the flowers and leaves do not interfere with each other: put this on a quire of blotting paper, and also a quire over it, and then apply a weight on the top—books answer this purpose very well. The next day put dry blot-ting paper as before, first opening the sheet of paper, and making any alterations in the disposition of parts. Dried specimens are to be fixed into slips of paper or glued with common glue. These should be kept in shelves or drawers. To prevent the depradation of insects, Dr. Smith recommends a solution of corrosive sublimate (muriate of mercury,) in some spirits of wine, with which the plants are, when dry, to be gently moistened.

Imperfect Plants.—Apparently defective in one or other of the more conspicuous parts or organs, whether conservative or repro-ductive, are denominated imperfect, and are called Cryptogamous, because their organs of fructification are not yet detected, or are so minute as to require the aid of a microscope to render them visible, as in the Filices, Musci, Hepaticæ, Algæ, Lichens, and Fungi.

Improvement of Soils.—Soils may be rendered more fit for

answering the purposes of vegetation by pulverization, by con solidation, by exposure to the atmosphere, by an alteration o their constituent parts, by changing their condition with respect to water, by changing their position with respect to atmospherical influence, and by a change of the kind of plants cultivated. All these improvements are independently of the application of manure. The fibres of roots take up the extract of the soil by intro-susception: the quantity taken up therefore will not depend alone on the quantity in the soil, but on the number of the absorbing fibres. The more the soil is pulverised, the more these fibres are increased: and the more extract is absorbed, the more vigorous does the plant become. Pulverization, therefore, is not only advantageous, previous to planting or sowing, but also during the progress of vegetation, when applied in the intervals between the plants. In this last case it operates also in the way of pruning, and by the cutting off the extending fibres, causes them to branch out numerous others, by which the mouths or pores of the plant are greatly increased, and such food as is in the soil has the better chance of being sought after and taken up by them.

Pulverization increases the capillary attraction, or sponge-like property of soils, by which their humidity is rendered more uniform. It is proved that capillary attraction must be greatest when the particles of the earth are finely divided, for gravel and sand hardly retain water at all, while clays not open by pulverization, or other means, either do not absorb water, or when by long action it is absorbed, they retain too much. Water is not only necessary to the growth of plants, as such, but it is essential to the production of extract from the vegetable matters they contain, and unless the soil, by pulverization or otherwise, is so constituted as to retain the quantity of water requisite to produce this extract, the addition of manures will be in vain. Manure is useless to vegetation until it becomes soluble in water, and it would remain useless in a state of solution if it so abounded as wholly to seclude air, for then the fibres or mouths, unable to perform their functions, would soon decay and rot off; as is the case with flowers or shrubs in pots where there is no opening, so that the air cannot circulate round the roots.

Pulverization leads to the increase of vegetable food. Water is known to be a condenser and solvent of carbonic acid gas; which, where the land is open, can be immediately carried to the roots of vegetables, and contributes to their growth; but if the earth be close, and the water lie on or near its surface, then the car-

bonic gas, which always exists in the atmosphere, and is carried down by rains, will soon be dissipated. An open soil, therefore, is always suitable for effecting those changes in the manure itself which are equally necessary to the preparation of such food. Animal and vegetable substances exposed to the alternate action of heat, moisture, light and air, undergo spontaneous decomposition which would not otherwise take place.—*A very good compost for improving stiff soils is made by equal parts of lime and* woodashes with two parts of sand.

In soils that are very light, it is advantageous to roll or beat down seeds, as it prevents the light soil from drifting, and also (a very material point) hinders ants from carrying them away.

Stagnant water may be considered as injurious to all the useful classes of plants, by obstructing perspiration and intro-susception —thus diseasing their roots and submerged parts.

INARCHING, OR GRAFTING BY APPROACH.—This is a very common method all over India, and is performed by bringing the stock you would graft upon close to the tree from which you wish to take a branch, and which remains united until the two branches are firmly connected together : the stem is then divided near the stock and removed.

Process.—Either having the stocks and trees designed to inarch from growing in the ground near together, or in pots, or that you wish to inarch some branches of trees, and that the said branches are three or more feet from the ground, and suppose the stocks you would graft upon to be in pots or boxes, in that case you must erect a slight stage close to, and as high as, the branches of the tree, for placing the stocks upon. Thus far, then, in either case, you have proceeded. Take one of the branches you desire to inarch, and bring the body of the said branch to touch that of the stock at such a convenient height, where the stock and graft is nearly of the same size, and mark the parts where the stock and graft will most readily unite ; then, in that part of the branch, pare away the bark and part of the wood about three inches in length, and in the same manner let the rind and wood be pared off that side of the stock where the branch is to be joined, the same length and breadth, so that both the cut parts may exactly join, rind to rind, and be united in the middle ; let them then be immediately tied together with tape, as closely and firmly as possible ; then tie round the whole in a smooth manner. A piece of wax cloth, or else a composition of clay and cow-

dung, must be fastened round the whole: the objection to the latter method is, that it becomes the receptacle for insects, ants in particular, and you are in danger of having your grafts spoiled. After this, to prevent the wind from displacing the grafts, a strong stake should be driven in the ground, close to the stock, to which they should be tied. The stock and graft should remain in this position for at least ten weeks, though sometimes they will be united much sooner. This method of raising trees may be followed at any season, except in the rains.

Insects—which infect the plants are almost as numerous as the plants themselves, almost every species having a particular insect which it seems destined by nature to support. The eggs of insects seldom increase in size from the time they have been deposited by the parent until they are hatched. Different species of insects remain enclosed in the egg for different periods: some continue enclosed in the egg for months, others only for a few days. The insect in its second or Caterpillar state is usually known by the name of Eruca or Larva. The larva of insects differ very much from each other, according to the several tribes to which they belong:—those of the Butterfly (Papilio) and Moth (Phalina) are generally known by the name of Caterpillars; those of the Beetle, (Scarabeus) and those that inhabit the water, are called grubs.

Lawn.—In gardening, a surface of turf or grasses, kept short by frequent cutting, and generally situated near the house.

Lime.—If quick lime, either fresh, or burnt, or slaked, be mixed with moist vegetable substances, it soon destroys their texture, and forms a mixture the greater part of which can be dissolved in water, thus rendering what was previously useless fit for the food of plants. It is much more useful in farms than gardens.

Light—is essentially necessary to the growth of plants, as also its exclusion for blanching or etiolation, as no exposure to cold or fresh air would produce toughness and hardiness, if plants were kept in the dark; and no absence of cold or fresh air would produce blanching if light were admitted. A partial exclusion of light causes plants to be pale and sickly, as in the shade of thick woods or under trees, as is the case where plants shoot out long branches in search of air and light: hence the term is said to be drawn.

Light appears to be as necessary to the health of plants as air or moisture. A plant may indeed grow without it, but it does not

appear a species could be so continued. Under such a privation, *the parts which are usually so grown assume a white colour*, as is the case with vegetables grown in a cellar, or protected by a covering for the sake of producing this very effect: thus Celery, Endive, &c., is in this manner blanched or etiolated.

"The part of the process of vegetable life for which light is especially essential, appears to be in the functions of the leaves; these are affected by this agent in a remarkable degree. The moisture that plants imbibe is by their vital energies carried to their leaves, and is there brought in contact with the atmosphere, which, besides other ingredients, contains in general a portion of carbonic acid. So long as light is present, the leaf decomposes the carbonic acid, appropriates the carbon to the formation of its own proper juices, and returns the disengaged oxygen into the atmosphere, thus restoring the atmospheric air to a condition in which it is more fitted, than it was before, for the support of animal life."

"The plant thus prepares the support of life for other creatures at the same time that it absorbs its own. The greenness of those members which effect that colour, and the disengagement of oxygen, are the indications that its vital powers are in healthful action. As soon as we remove light from a plant these indications cease: it has no longer power to imbibe carbon, and disengage oxygen, but, on the contrary, it gives back some of the carbon already obtained, and robs the atmosphere of oxygen for the purpose of re-converting this into carbonic acid."—*Whewell.—Bridgewater Treatise.*

LIQUID MANURES—are formed by infusing rich dungs, as those of fowls, sheep, pigs, &c., or blood, in three or four times their bulk of water, and the application of the extract so procured is made at the usual season of watering, taking care to apply it only to the roots.

The value of liquid manure is well known in England to gardeners, and there is no reason why it should not be of equal importance to the Agriculturist in this country; and if the drainings from the dung heap was only preserved, as it might be, during the rains, in tanks or other reservoirs, and then mixed with loam and kept under a shed, it would prove the best compost for flowers or vegetables. A trial that was given between the liquid manure and Guano, some short time ago, by Mr. Booth, of Carlew, by direction of Sir Charles Lemon, clearly shows that the former

had the preference. The mere drainings from the farm-yards were used in the proportion of 100 gallons to the tenth part of an acre, —not in the strong brown coloured state it appears when running from the stables or cattle-houses, but diluted with water in the proportion of one gallon of liquid to two of water. The appearance of the corn was strong and healthy; the weight of straw was 300 lbs., of corn 256 lbs., which measured 5¼ bushels, or 52½ bushels per acre.

The result of Guano where 15½ lbs. was applied to the tenth part of an acre, gave a return of 280 lbs. of straw, 252 lbs. of corn, or 5 bushels, equal to 50 bushels the acre. The cost of the Guano per acre was £1-0-0—the liquid manure nothing.

The following table will readily show the results of several experiments with artificial manures, applied as a top-dressing to Barley in 1843, in England, strongly recommended—Nitrate of Soda, Sulphate of Soda, Sulphate of Ammonia, and Stott's soluble manure—a preparation somewhat resembling the last. By this table will be seen the fact of the common drainings of the farm-yard giving a return equal to that obtained from the finest manure of which we have any knowledge.

Kind of Manure.	Quantity used on one-tenth of an Acre.	Price.	Produce of one-tenth of an Acre. Straw.	Corn.	Bushels.	Cost per Acre.	Rate of produce per Acre. Straw.	Corn.
	lbs.	s. d.	lbs.	lbs.		£ s. d.	cwt. qrs. lbs.	bush.
Nothing	—	—	233	200	4	—	20 3 6	40
1. Nitrate of Soda	33⅓	6 0	199	178	3½	3 0 0	17 3 2	37½
2. Sulphate of Soda	33⅓	8 0	264	215	4¾	1 10 0	23 2 8	48¾
3. Guano	16½	2 0	280	252	5	1 0 0	25 0 0	50
4. Sulphate of Ammonia	22½	3 11	269	232	4½	1 19 2	24 0 2	47½
5. Stott's soluble manure	12	4 0	288	257	5¼	2 0 0	25 2 24	53¼
	Galls.							
6. Drainings of Farm-yards	100	—	300	256	5¼	—	26 3 4	52½

Excellent Dressing for Gardens.—The use of the following manure is described as being so beneficial as to be followed by a four-fold increase of produce, and is well adapted for the flower and kicthen garden. In a pit about twenty feet long, twelve or fourteen wide, and fifteen or eighteen deep, put a layer of dung, and on that a layer of earth, and so alternately till the pile is elevated a foot or two above the level of the ground, watering each layer of earth with a strong solution of

saltpetre—this should be left undisturbed for six months. When this compost is moved, it will be found wholly converted into earth, presenting no trace of the dung.

Guano, like farm-yard dung, is variable in its composition. It is the dung of birds which feed on fish, and consists principally of salts of ammonia and phosphates, with a little soda and potash. Attempts are being made to produce an artificial guano by a mixture of the mean of the various salts which it contains, which shall be more uniform in character. In using these concentrated saline mixtures, it is hazardous to drill them in with the seed, as there is a danger of their killing it during germination: they should be used as a top-dressing, and sewn by hand with care, so as to distribute it as equally as possible over the plot of ground.

LOAM—is a yellowish or brownish kind of clay, sometimes containing a considerable proportion of sand. It occurs in immense beds, and is found in almost every part of the world.

MANURE.—This term is applied indiscriminately to all substances which are known from experience either to enrich the different soils, or contribute in any other way to render them more favorable to vegetation.

In an agricultural point of view, the subject of manures is of the utmost importance. To correct what is hurtful to vegetation in the different soils, and to restore what is lost by exhausting crops, are operations in agriculture which may be compared to the curing diseases in the animal body, or supplying the waste occasioned by labour.

Rotted dung is very much superior in imbibing and retaining water to that which is fresh, unfermented, or beginning to ferment. The quantity of humic acid is considerably greater in rotted than fresh dung, and it approaches nearer to the best leaf mould or virgin loam.

Lime should never be applied with animal manures unless they are too rich, or for the purpose of preventing noxious effluvia: it is injurious when mixed with any common dung, and tends to render the extractive matter insoluble. It is beneficial to all new soils, especially where the salts of iron are found.

Animal and vegetable manures are used to renovate worn out lands by supplying new soluble and gaseous matter for the nourishment of the plant. This is not a permanent good, and requires to be constantly renewed, as it is found by experience that

vegetable and animal substances, used as manure, are consumed during the process of vegetation. The Chinese use every animal and vegetable refuse; everything of disgusting appearance and offensive effluvia they collect carefully and use as beneficial agents in vegetation, thus converting the loathsome and revolting into wholesome and inviting. The great object in the application of manure should be to make it afford as much soluble matter as possible to the roots of the plants, and that in a slow and gradual manner, so that it may be entirely consumed in forming its sap and organised parts. Animal and vegetable manures can only nourish the plant by affording solid matter capable of being dissolved by water, or gaseous substances capable of being absorbed by the fluids in the leaves of vegetables.

The following compost has been used in England, and it is said to have doubled the crops of potatoes and cabbages, and to be far superior to stable manure:—

Raise a platform of earth eight feet wide, one feet high, and of any length according to the quantity wanted. On the first stratum of earth lay a thin stratum of lime, fresh from the kiln: dissolve or slake this with salt-brine from the nose of a watering pot; and immediately another layer of earth, then lime and brine as before, carry it to any convenient height. In a week it should be turned over and carefully broken and mixed, so that the mass may be thoroughly incorporated.

Manures of Vegetable and Animal Origin.—Experience shows that vegetable and animal substances deposited in the soil are consumed during the progress of vegetation, and they can only nourish the plant by affording solid matters capable of being dissolved by water, or gaseous substances capable of being absorbed by the fluids in the leaves of vegetables; but such parts of them as are rendered gaseous, and that pass into the atmosphere, must produce a comparatively small effect, for gases soon become diffused through the mass of the surrounding air. The great object in the application of manure should be to make it afford as much soluble matter as possible to the roots of the plant; and that in a slow and gradual manner, so that it may be entirely consumed in forming its sap and organized parts. Mucilaginous, gelatinous, saccharine, oily, and extractive fluids, and solution of carbonic acid gas in water, are substances that, in their unchanged state, contain almost all the essentials necessary for the life of plants; but there are few cases in

which they can be applied in their pure form: and vegetable manures, in general, contain a great excess of fibrous and insoluble matter, which must undergo chemical changes before they can become the food of plants.

It will be proper to explain the nature of these changes, of the causes which occasion them, and which accelerate or retard them; also of the products they afford.

"If any fresh vegetable matter which contains sugar, mucilage, starch, or other of the vegetable compounds soluble in water, be moistened and exposed to air at a temperature from 55 to 80 degrees, oxygen will soon be absorbed, and carbonic acid formed: heat will be produced, and elastic fluids (principally carbonic acid gas, gaseous oxide of carbon, and hydro-carbonate) will be evolved, and a dark-coloured liquid, of a slightly sour or bitter taste, will likewise be formed; and if the process be suffered to continue sufficiently long, nothing solid will remain except earthy and saline matter, coloured by black charcoal. The dark-coloured fluid formed in the fermentation always contains acetic acid, and when albumen or gluten exists in the vegetable substance it likewise contains volatile alkali. In proportion as there is more gluten, albumen, or matter soluble in water, in the vegetable substances exposed to fermentation, so in proportion, all other circumstances being equal, will the process be more rapid. Pure woody fibre alone undergoes a change very slowly, but its texture is broken down, and it is easily resolved into new elements when mixed with substances more liable to change, containing more oxygen and hydrogen. Volatile and fixed oils, resins, and wax, are more susceptible of change than woody fibre when exposed to air and water, but much less liable than the other vegetable compounds: and even the most inflammable substances, by the absorption of oxygen become gradually soluble in water.

Animal matters, in general, are more liable to decompose than vegetable substances: oxygen is absorbed, and carbonic acid and ammonia formed, in the process of their putrefaction. They produce fœtid compound elastic fluids, and likewise azote; they afford dark-coloured acid, and oily fluids, and have a residuum of salts and earths mixed with carbonaceous matter.

The principal substances which constitute the different parts of animals, or which are found in their blood, their secretions, or their excrements, have been classed and analyzed by Sir Humphrey Davy and others. It is unnecessary to describe these mi-

nutely, but merely to state that a difference exists in each, and that the ammonia given off from animal compounds in putrefaction may be conceived to be formed, at the time of their decomposition, by the combination of hydrogen and azote. Except this matter, the other products of putrefaction are analogous to those afforded by the fermentation of vegetable substances; and the soluble substances formed abound in the elements which are the constituent parts of vegetables, in carbon, hydrogen, and oxygen.

Whenever manures consist principally of matter soluble in water, it is evident that their fermentation or putrefaction should be prevented as much as possible; and the only cases in which these processes can be useful are when the manure consists principally of vegetable or animal fibre. The circumstances necessary for the putrefaction of animal substances, and also of vegetables, are, a temperature above the freezing-point, and the presence of oxygen at least in the first stage of the process. To prevent manures from decomposing, they should be preserved dry, defended from the contact of air, and kept as cool as possible.

As different manures contain different proportions of the elements necessary to vegetation, so they require a different treatment to enable them to produce their full effects in agriculture.

All green succulent plants contain saccharine or mucilaginous matter, with woody fibre, and readily ferment. They cannot, therefore, when intended for manure, be used too soon after their death. Green crops intended for enriching the soil, should be ploughed in when the flower is beginning to appear, that being the period when they contain the greatest quantity of easily soluble matter, and when their leaves are most active in forming nutritive matter. Green crops, pond weeds, the parings of hedges or ditches, or any kind of fresh vegetable matter, requires no preparation to fit them for manure. The decomposition proceeds slowly beneath the soil; the soluble matters are gradually dissolved, and the slight fermentation that goes on, checked by the want of free communication of air, tends to render the woody fibre soluble, without occasioning the rapid dissipation of elastic matter.

When pastures are broken up and made arable, not only has the soil been enriched by the death and slow decay of the plants which have left soluble matters in the soil, but the leaves and roots of the grasses living at the time, and occupying so large a part of the surface, afford saccharine, mucilaginous, and extractive matters, which become immediately the food of the crop, and the gradual decomposition affords a supply for successive years.

Sir Humphrey Davy instituted a number of experiments in support of the theory he advanced, that straw should be used in an unfermented state; and there can be little doubt but that great loss is sustained by the farmer under the practice that still prevails to a great extent, of fermenting and re-fermenting the dung-heap by frequent turnings, as much of the gaseous matter is dissipated and lost by every operation.

Dry straw of wheat, oats, barley, beans, and peas, and spoiled hay, or any other similar kind of dry vegetable matter, is in all cases useful manure. In general, such substances are made to ferment before they are employed, though it may be doubted whether the practice should be indiscriminately adopted.

There can be no doubt but that the straw of different crops immediately ploughed into the ground, affords nourishment to plants, but there is an objection to this method of using straw, from the difficulty of burying long straw, and from its rendering the husbandry foul.

When straw is made to ferment, it becomes a more manageable manure; but there is likewise, in the whole, a great loss of nutritive matter. More manure is, perhaps, supplied for a single crop, but the land is less improved than it would be supposing the whole vegetable matter were finely divided and mixed with the soil.

The dung of birds that feed on animal food, such as sea-birds, is considered the most powerful amongst the excrementitious solid substances used as manure. The guano, which is used to a great extent in South America, being the manure that fertilizes the sterile plains of Peru, is a production of this kind. It exists abundantly on the small rocky islands on the coasts, whither sea-fowl resort at certain seasons, and being gathered, forms an article of commerce.

Night-soil is a well known and powerful manure, and very liable to decompose. It differs in composition, but always abounds in substances composed of carbon, hydrogen, azote, and oxygen. From the analysis of Berzelius, it appears that a part of it is always soluble in water, and in whatever state it is used, whether recent or fermented, it supplies abundance of food to plants.

The disagreeable smell of night-soil may be destroyed by mixing it with quick-lime, and if exposed to the atmosphere in thin layers, strewed over with quick-lime in fine weather, it speedily dries, is easily pulverised, and in this state may be used in the same manner as rape cake, and delivered into the furrow of the seed. The Chinese, who greatly esteem this mixture, mix it with

one-third of its weight of fat marl, make it into cakes, and dry it in the sun. These cakes have no disagreeable smell, and form a common article of commerce in that populous empire. We shall hereafter describe the manner in which this and other "fertilizers" are prepared for sale in this country.

Pigeons' dung comes next in order as to fertilizing power. By digesting 100 grains in hot water for several hours, it will yield twenty-three grains of soluble matter; and this affords abundance of carbonate of ammonia by distillation, leaving carbonaceous matter, saline matter, and carbonate of lime, as a residuum. Pigeons' dung when moist, readily ferments, but after fermentation contains less soluble matter than before, as when, in that state, 100 parts will yield only eight of soluble matter, with proportionably less carbonate of ammonia, making it evident that it should be applied as new as possible. The dung of domestic fowls possesses the same properties as that of pigeons, but in an inferior degree. Rabit's dung has been used with great success, and is best when laid on as fresh as possible.

The dung of cattle, oxen, and cows, contains matter soluble in water, and gives in fermenting nearly the same products as vegetable substances, absorbing oxygen, and producing carbonic acid gas.

The recent dung of sheep and goats afford, when long boiled in water, soluble matters, which equal from two to three per cent of their weight. These contain a small quantity of matter analogous to animal mucus, principally composed of a bitter extract soluble in water and in alcohol. They appear to differ little in composition, both giving ammoniacal fumes by distillation.

The part of the dung of cattle, sheep, and goats, not soluble in water, is the mere woody fibre analogous to the residuum of those vegetables that form their food after they have been deprived of their soluble materials.

The dung of horses gives a brown fluid, which when evaporated yields a bitter extract, which affords ammoniacal fumes more copiously than that from the dung of oxen.

If the pure dung of cattle is used as manure, there seems no reason why it should be made to ferment except in the soil: or if suffered to ferment, it should be only in a very slight degree. The grass in the neighbourhood of recently voided dung is always coarse and dark green, but this must not be attributed to a noxious quality in unfermented dung, but rather the result of excess of food furnished to the plants.

The dung of horses and cattle is however usually mixed up with straw, and other matters, and consigned to a general heap

called the dunghill, and as this contains a large proportion of fibrous vegetable matter, a slight incipient fermentation, sufficient to induce a disposition to decay and dissolve when brought upon the land and ploughed in, is certainly advantageous; but although this is necessary to the woody fibre, we must bear in mind that too great a fermentation is highly prejudicial to the composite manure in the dunghill, and it is better in fact that there should be no fermentation before the manure is used than that it should be carried too far. This is a very important matter to observe, for excess of fermentation tends to the destruction and dissipation of the most useful part of the manure, and the ultimate results of this process are like those of combustion.

Woodashes not too much reduced have been used with success as manure. A part of their effects may be owing to the slow and gradual consumption of the charcoal, which seems capable, under other circumstances than those of actual combustion, of absorbing oxygen so as to become carbonic acid.

Animal substances, such as putrid meat or carcases of beasts, require no chemical preparation to fit them for the soil. The object of the farmer should be to blend them with earthy constituents in a proper state of division, so as to prevent their too rapid decomposition. After taking the skin off dead animals, they should be covered with six times their bulk of soil mixed with one part lime, and suffered to remain for a few months, mixing a little more quick lime with the mass at the time of its removal, which will destroy the effluvia.

Fish is a powerful manure, and should be ploughed in fresh, but not in too great quantities, or the crop will be rank. In Cornwall, where this manure is very general in the pilchard season, they mix the fish with sand or seaweed. There is a small fish, called the stickleback, also applied as manure in the fens of Linconshire and other counties. The operation of fish as a manure is easily explained. The skin is principally gelatine, which from its slight state of cohesion is readily soluble in water. Fat or oil is always found in fishes; and their fibrous matter contains all the essential elements of vegetable substance. The effects of a manuring of fish are apparent for several years.

Bones have lately come into great use as a manure, and a powerful auxiliary they are to a tenant entering upon a worn-out farm, being cheap, easy of carriage, available in all situations, and insuring a crop. The more divided they are, the more powerful their effect; but when broken instead of ground to dust, they are more lasting.

The basis of bones is constituted by earthy salts, principally phosphate of lime, with some carbonate of lime, and phosphate of magnesia: the easily decomposable substances in bone, are fat, gelatine, and cartilage, which seems of the same nature as coagulated albumen.

Horn is a still more powerful manure than bone, as it contains a larger quantity of decomposable animal matter: 100 grains of ox-horn yield only 1.5 grains of earthy residuum, and not quite half of this is phosphate of lime. The shavings and turnings of horn form an excellent manure, the animal matter in them appearing of the nature of coagulated albumen, which is slowly rendered soluble by the action of water. The earthy matter in horn, and still more in bones, prevents the too rapid decomposition of the animal matter, and renders the effects very durable. Blood contains certain quantities of all the principles found in other animal substances, and is therefore a very good manure.—*Magazine of Domestic Economy.*

Parasitic Plants.—Such as root into other living plants, and derive their nourishment from thence.—Some root into the stem or branches, as (viscus) the Misletoe; others attach themselves to the root, as Hypocistus.

Peaty Soils.—The formation of peaty soils is produced from very opposite causes, and it is interesting to contemplate how the same effect may be produced by different means, and the earth, which supplies almost all our wants, may become barren, alike from the excessive application of art or the utter neglect of it.

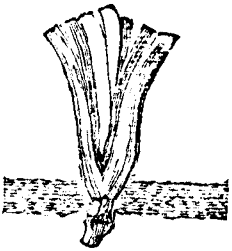
Perfect Plants—are divided into conservative and reproductive. The conservative organs are such as are absolutely necessary to the growth and preservation of the plant, including the roots, trunk, branch, leaf and fruit.

Preparing Ground.—Having selected your spot, which you wish to prepare for either sowing crops or making a plantation, the first thing to be done is to clear it of weeds by drying or ploughing the whole up well, exposing the earth to the action of the sun and air, then breaking up the clods of earth and removing the weeds, which should be burnt on the spot, as the ashes form an excellent manure, and you are certain that the weeds are destroyed. If your ground is of a clayish soil, which is seldom found in the Deccan, the best thing you can add to it is brick dust or ashes; if of a light nature, the common manure, procurable in almost all situations in the neighbourhood of towns

and villages, mixed with the mud from the dry beds of tanks. If common manure is scarce, see the artificial compost recommended under the head Manure.

PROPAGATING BY CUTTINGS.—The choice of cuttings should be made from the side shoots of plants, rather than from their summits or main stems, as the strength and health of side shoots being equal to those nearest the ground should be preferred. The proper time of taking cuttings from the mother plant is when the sap is in full motion, in order that when returning by the bark it may form a callus, or protruding ring of granular substance, between the bark and wood, whence the roots proceed. As this callus, or ring of spongy matter, is generally best formed in ripened wood, the cuttings, when taken from the mother plants, should contain a part of the former year; or in plants which grow twice a year, of the wood of the former growth; or in the case of plants which are continually growing, such wood as has begun to ripen, or assume a brownish colour. The cuttings will vary in length, according to their strength and manner of growth, from six inches to a foot; they should be planted in a shady situation, or else protected from the sun by mats or otherwise. The distance of each should be from six to twelve inches apart, or even more where they grow quick and are likely to form large plants; great care is also requisite that, in laying down the cuttings, they are put clear into the ground without injury to the bark.

PROPAGATING BY LAYERS.—The work of laying the branches of trees, or shrubs, is easily performed, though it is not every tree that can be propagated in this manner. The first thing necessary to be done, is to clear and dry up the ground round the tree or plant you propose to take layers from; then gently bend down the branch, after having cleared it of all superfluous shoots, and lay it in the ground about six inches deep, leaving the top uncovered —then put a stone on the earth that covers the shoot, sufficiently large to keep it in its place: wooden pegs are not so serviceable, from being apt to get loose from the mode of irrigation pursued in India, the white ants also generally destroy them. Should the branch be so high, or so strong, as not easily to be bent down, it may be necessary to cut a notch in it, in a sloping direction, so as to make it bend more easily; then split the stem with a knife, towards a bud in that part of the branch which is laid in the ground; this promotes its throwing out fibres, and therefore should be attended to. It is advisable not to remove the layer until it has been separated from the parent stock for a fortnight or more.



PROPAGATING BY PIPINGS.—This method is mostly adopted for the increase of carnations and pinks, and performed in the following manner: take one of the suckers of either the above flowers and divide the top shoot with a knife, just above the third joint; take the head of the shoot between the finger and thumb of one hand, and with the other hold the lower part of the shoot between a pair of leaves; then pulling the head of the shoot gently it will readily come out of the socket—hence it is called the piping. These pipings are to be inserted in finely prepared earth, to the depth of the first joint or pipe.

PRUNING—consists in removing all superfluous branches either for the purpose of increasing the fruit, enlarging the tree, making it bear better, and more regular in its appearance. Though an operation in general practice, it is nevertheless properly understood by few, and is only to be acquired by practice and observation, bearing in mind the various modes in which each tree is disposed to produce its fruit or flower, and being careful to remove such branches and slips only as may be necessary, without disfiguring or injuring the tree. Be careful in removing decayed branches, that you cut them clean down to the place from which they were produced, otherwise that part of the branch which is left will also decay and prove hurtful to the tree.

RADIATION—is the spreading of heat, which arises from heat passing from a hot body to a cooler one near it. The spreading of heat takes place between the surface of the ground and the air when the air is cold: though the soil be warm it soon loses its heat, and dew or hoar frost is formed on the ground, or grass, by the moisture diffused in the air. But when the sky is covered with clouds, the spreading and loss of heat is in a great measure prevented, and hence there is no dew or hoar frost found on a calm cloudy night. Hence the use of protecting plants by a covering of matting, which stops the heat of the soil from spreading about and being lost in the air.

REPRODUCTIVE ORGANS—are those parts of a plant which are essential to its propagation; they include the flower, with its immediate accompaniments, or peculiarities, the flower, stalk, receptacle, and inflorescence, together with the ovary or fruit.

Runners—are young shoots issuing from the collar or summit of the root, and creeping along the surface of the soil, but producing a new root, and leaves at the extremity, and forming a new individual, by the decay of the connecting link, as in the strawberry.

Sap—is taken up by the tip of the roots, fibres, or spongelets and carried into the interior of the stem, and although thin and clear at first, becomes thicker as it ascends in the plant.

Sowing—is the first operation of rearing; when seeds are deposited singly, in rows or beds, they are said to be planted. When dropt in numbers together, they are said to be sown. The operation of sowing is either performed in drills, patches, or broad cast. In broad cast sowing, the seed is scattered over a breadth of surface previously prepared by digging or otherwise, minutely pulverised. The seed is taken up in the hand and scattered regularly over the surface, so as to fall as equally as possible. A windy day is particularly to be avoided. Dry weather is also essentially necessary for sowing, more especially for covering in the seed.

Spurious Peaty Soils.—Lakes and pools of water are sometimes filled up by the accumulation of the remains of aquatic plants, and in this case a sort of spurious peat is formed. The fermentation in these cases seems to be of a different kind: much more gaseous matter is evolved, and the neighbourhood of morasses (or tanks) in which aquatic vegetables exist, is usually aguish and unhealthy, whilst that of true peat formed on soils originally dry is always salubrious.

Soils may generally be distinguished from mere masses of earth, by their friable nature, dark color, and by the presence of some vegetable fibre, or carbonaceous matter. The species of soil is always determined by the mixture of matters, and never by the colour or texture of that mixture, which belongs to the nomenclature of varieties. Thus a clayey soil with sand, is a sandy clay—this is the name of the species: if the mass is yellow or red, it is a yellow or red sandy soil, which expresses at once the genus, species, and variety.

The true nourishment of plants is water and organic matter. Both these exist only in soils, and not in pure earth, but the earthy parts of the soil are useful in retaining water, so as to supply it in proper proportions to the roots of vegetables, and

they are likewise efficacious in producing the proper distribution of the animal or vegetable matter. When equally mixed with it, they prevent it from decomposing too rapidly, and by these means the soluble parts are supplied in proper proportion.

The power of soils to absorb water from air is much connected with fertility. When this power is great, the plant is supplied with moisture in dry seasons, and the effect of evaporation in the day is counteracted by the absorption of aqueous vapour from the atmosphere by the interior parts of the soil during the day, and by both the exterior and interior during the night.

SUCKERS.—If you desire to get stocks, or plants, by this method, all that is necessary is, that the sucker, or young shoot which springs up from the root of the tree, should be carefully removed with a sufficiency of earth round it, so that the spongioles are in no way injured in the removal to the nursery bed or the spot where they are to remain.

TENDRIL—Is the thread-shaped and generally spiral process issuing from the stem, branch, or petiole, and sometimes from the expansion of the leaf itself, being an organ by which plants of weak and climbing stems attach themselves to other plants or substances for support,—the tendril being much stronger than a branch of the same size.

TEXTURE OF SOILS.—The perpendicular extent of roots are greatly influenced by the looseness or compactness of the soil. As for instance, carrots, beet, &c. All deep penetrating roots, when placed in a hard or stiff soil not easily divisible, are not only dwarfed, but split into branches, or twisted, as it may be. Since, then, the mere texture of the soil, independently of the food of plants which it contains, produces such effects, it must be of the greatest importance to attend to these circumstances.

TICKETING OF FLOWERS.—"When a piece of zinc is rubbed bright with sand or brick dust, and written on with a black lead pencil, the writing in the course of a few hours becomes black and indelible, and will withstand all weathers. Pieces used once may be brightened by rubbing on brick or tile, and employed as often as is desired."—*Bombay Times*.

TRANSPLANTING.—If the object be to remove trees or shrubs, it is essentially necessary that the root fibres should be uninjured,

and that a sufficiency of the soil attached to the roots be removed with them. If you are transplanting vegetables, such as beet, carrots, turnips, &c., the best method is to use a straight dibber, place the roots perpendicularly without bending the tap-root, and then gently replace the earth around it. It may perhaps be necessary, should the root fibres be injured, to remove some of the leaves, otherwise the remaining fibres will not be able to nourish the plant.

When it is found impossible to preserve the root fibres from injury, or to replant them exactly in their former position, in order to diminish the loss of sap, the plants ought to be shaded from the light and sun, or a part of their leaves or branches cut off.

The removing of plants or trees depends solely upon circumstances; and the principal facts to be remembered by gardeners are, that all trees and plants derive their nourishment through the tips of the root fibres, and that the sap carried into the leaves passes off by exposure to light and sunshine; therefore the necessity of great care being used to preserve the mouths (or spongioles) entire.

Doctor Oake, M. D., of Southampton, states that it has been discovered that the best method of conveying plants to a distance is, by means of a wide-mouthed bottle, so covered up as to allow only a small aperture for the admission of air.

The exhalation of the plant being condensed beneath the roof or shoulder of the bottle, falls down, or rather distills again upon it, and constantly refreshes it with the results of its own evaporation; while it enjoys the rays of the sun through the transparency of the vessel in which it is confined.

In this way a primrose was conveyed to New Sydney from England.

TRANSPLANTING, OR LAYING DOWN TURF.—Turfing, as the operation is commonly called, consists in laying down turf on surfaces intended for lawns or borders. The turf is cut from a smooth firm part of a bank, or other ground free from coarse grass, in small patches about a foot square, and conveyed to the spot where it is to be used. The surface on which the turfs are to be laid ought previously to be dug or trenched, so as to be brought to one degree of consistency, and then rolled or beaten so that it may not afterwards sink. The turfs being laid so as to fit, are to be

first beaten down individually, and then watered and rolled until the whole is smooth; and even then it will require being watered by the hand during the dry season at least once a day.

TRUNK—constitutes the principal bulk of a tree.

WATER.—Water is essentially necessary for the nourishment of plants, and although some will grow and throw out flowers, they never form seed without it.

The material which water holds in solution forms the important part of nourishment, or otherwise causes the decay of plants. All water contains more or less atmospheric air, and water is more or less beneficial in proportion to the quantity mixed with it. Rain water, from its falling, collects a large proportion of air during its descent.

WATERING.—These rules should be invariably attended to—never water the leaves, or top of a plant, when the sun shines: watering, therefore, should be carried on in the morning, or evening, unless it be confined to watering the roots; in which case, transplanted plants, and others in a growing state, may be watered at any time, and if they are shaded from the sun, they may be watered over the tops.

WINTERING.—Trees are brought into bearing by this process, which consists in carefully removing the earth from the trunk roots and laying them open, and at the same time picking off all the leaves. The tree is left in this way without water for a certain period, and is thus brought into bearing by the nutrient matters and properties of the sap being thickened, and thus stored up and afterwards thrown into the buds, the pulp, wood, root, and crown of the root. The check to the growth of trees by wintering, &c., is thus advantageous—causing the leaf pulp to become thickened by the loss of water and oxygen. When it returns to the stem and crown of the roots, it lays the basis of fresh branches terminating in flower buds. Whereas were a plant to remain unmoved in a rich soil well watered, it would probably send up more sap than the light could readily deprive of its water and oxygen, and thence would push out new leaves to carry off the superabundance; while there would be no pulp formed thick enough and containing enough of carbon to produce flowers.

WORMS—may either be destroyed by picking them up by hand very early in the morning or late in the evening in moist weather, or by watering with lime or salt and water.

WOUNDS IN TREES.—To heal wounds in trees,—make a varnish of common linseed oil rendered very dry, boiling it for the space of an hour with an ounce of litharge* of each pound of oil, mixed with calcined bones (pulverized and sifted) to the consistence of almost a liquid paste. The wounds are to be covered by means of a brush, after the bark and other substance has been pared off so as to render the whole as smooth and even as possible. The varnish must be applied in dry weather, in order that it may attach itself properly.

FLORICULTURAL CATALOGUE.

ARRANGED IN ITS NATURAL ORDER AGREEABLE TO DECANDOLLE.

Order 1. Ranunculaceæ.—Crow Foot Tribe.

Adonis Vernalis.
Anemone Coronaria.
,, Hudsoniana.
,, Narcissiflora.
,, Pulsatilla.
,, Vitifolia.
Clematis Flammula.
,, Gouriana.
,, Wightiana.
,, Coriacea.
Species.
Nigella Hispanica.
Pæonia Arborea.
Ranunculus Asiaticus.

Aquilegia Alpina.
,, Canadensis.
,, Elatior.
,, Formosa.
,, Skinneri.
,, Glandulosa.
,, Sibirica.
,, Viridiflora.
Delphinium Amœnum.
,, Azureum.
,, Chinense.
,, Album.
,, Grandiflora.
,, Lazulinum.
Species.

Order Nymphæaceæ.—Water Lily Tribe.

Nymphæa Rubra.
,, Pubescens.

Victoria Regia.

Order Magnoliaceæ. Magnolia Tribe.

Magnolia Grandiflora.
,, Tripetala.

Michelia Rheedii.

Order Cruciferæ.—Mustard Tribe.

Mathiola Victoriœ.
Species.

Iberis Odorata.
,, Umbellata.
,, Major and Alba.

Order Papaveraceæ.—Poppy Tribe.

Argemone Grandiflora.
,, Mexicana.
,, Ochroleuca.
Eschscholtzia Crocea.
,, Californica.
,, Compacta.
Glaucium Fischerianum.
,, Tricolor.

Papaver Croceum.
,, Floribundum.
,, Involucratum.
,, Orientale.
,, Pulcherrimum.
,, Spectabile.
Platystemon Californicum.

ORDER RESEDACEÆ—MIGNIONETTE TRIBE.

Reseda Odorata.
,, Chinensis.
Reseda Myriophylla.

ORDER CAPPARIDACEÆ—CAPER TRIBE.

Cleome Pentaphylla.
,, Spinosa.
Cratoeva Roxburghii.
Capparis Horrida.

ORDER BIXINEÆ—ARNOTTO TRIBE.

Bixa Orellana.

ORDER VIOLACEÆ—VIOLET TRIBE.

Viola Odorata.
Viola Tricolor.

ORDER CARYOPHYLLACEÆ—CHICKWEED TRIBE.

Dianthus Caryophyllus.
,, Plenus.
,, Chinensis.
Species.
Dianthus Atrorubus.
,, Barbatus.
,, Flore pleno.

ORDER MALVACEÆ—MALLOW TRIBE.

Anoda Dilleniana.
Althæa Alba.
,, Atrorubens.
,, Purpurea.
Species.
Lavatera Salvitellensis.
Malope Alba.
,, Grandiflora.
,, Purpurea.
,, Trifida.
Hibiscus Africanus.
,, Humboldtii.
,, Grandiflora.
,, Moschatus.
,, Varieties.
Malva Miniata.
,, Moschata.
,, Moreni.
,, Sempervirens.
,, Zebrina.

Nuttalia Grandiflora.

Sida Tomentosa.
Mauritiana.

ORDER BYTTNERIACEÆ.

Tribe 5*th*.

Dombeya Tiliæfolia.
Acutangula.

ORDER GERANIACEÆ.—GERANIUM TRIBE.

Pelargonium Capitatum.
,, Deep Scarlet.
,, Scarlet.
,, Quercifolium.
Erodium Gruinum.
Geranium Crowfoot.
,, Graveolens.
,, Lemon-Scented.
Species.
Cfanç bill.

ORDER TROPÆOLACEÆ—NASTURTIUM TRIBE.

Tropæolum Atrosanguineum.
,, Sulphureum.
,, Peregrinum.
Tropæolum Tricolorum.
Pentaphyllum.
Species.

Order Balsamineæ—Balsam Tribe.

Balsamina Carnea.
,, Coccinea.
,, Hortensis.
,, Latifolia.

Balsamina Purpurea.
,, Punctata, Nova.
,, Striata, Nova.
,, Species.

Order Leguminoseæ—Pea Tribe.

Acacia Pulchella.
,, Species.
Agati Grandiflora.
,, Alba.
Ceratonia Siliqua.
Clianthus Puniceus.
Crotolaria Elegans.
,, Latifolia.
,, Juncea.
Species.
Cytisus Argenteus.
,, Capitatus.
,, Nigricans.
,, Sempervirens.
Doubentonia Tripetinna.
Dillwynia Glycinifolia.
Dolichos Lignosus.
Galega Orientalis.
Glycine Chinensis.
,, Comosa.
Goodia Lotifolia.
,, Pubescens.
Lotus Jacobæus.
Mimosa Marginata.
Ononis Rotundifolia.
Orobus Fischerii.
Oxylobium Cordifolium.
Physolobium Gravile.
Platylobium Triangulare.
Podalyria Genistoides.

Lupinus Albus (White.)
,, Lutea.
,, Stramineus.
Hovea Celsi.
Indigofera Australis.
,, Cytisoides.

Kennedia Maryattianæ.
,, Monophylla.
,, Physolobioides.
,, Coccinea.
Species.
Hedysarum.
Baptisia.
Lathyrus Speciosus.
,, Latifolius.
,, Albus.
,, Azureus, Major.

Poinciana Gilliesii.
,, Pulcherrima.
,, Regia.
Sollya Heterophylla.
Sutherlandia Grandiflora.
Swainsonia Galegifolia.
Pueraria Odorata.
Clitoria Ternata.

Order Rosaceæ—Rose Tribe.

Rosa Duc de Berri.
,, Damascena.
,, Microphylla.
,, Glandulifera.
,, Rubiginosa.

Rosa Multiflora.
,, Indica.
,, Edward.
,, Blush.
,, Fragrant (Mignionette.)
,, Scandens, Sweet Scented.

Order Lobeliaceæ—Lobelia Tribe.

Lobelia Erinoides.	Lobelia Gracilis.
,, Grandiflora.	,, Alba.
,, Rosea.	,, Bicolor.
,, Erinus.	Species.
Clintonia elegans.	Isotoma Axillaris.
,, Pulchella.	Siphocampylos.

Order Jasminaceæ—Jasmine Tribe.

Jasminum Fruticans.	Jasminum Sambac.
,, Grandiflorum.	,, Undulatum.
,, Glaucum.	Species.

Order Ficoideæ—Fig Marigold Tribe.

Mesembryanthemum.	Mesembryanthemum Tricolor.
,, Glabrum.	,, Album.

Order Onagrariæ—Evening Primrose Tribe.

Clarkia Gauroides.	Clarkia Pulchella.
,, Elegans.	,, Alba.
,, Rosea.	,, Grandiflora.
,, Flore pleno.	Species.
Epilobium.	Eucharidum concinnum.
Species.	,, Grandiflorum.
Fuchsia Hybrida.	
Godetia Œnothera.	Godetia Roseo-alba.
,, Bifrons.	,, Rubicunda.
,, Insignis.	,, Tenuifolia.
,, Lehmanni.	,, Viminea.
,, Purpurea.	Species.
Lapezia Species.	
Œnothera Acaulis.	Œnothera Odorata.
,, Drummondii.	,, Rosea.
,, Concinna.	,, Stricta.
,, Grandiflora.	Species.

Order Portulaceæ—Purslane Tribe.

Calandrinia Discolor.	Calandrinia Speciosa.
,, Grandiflora.	,, Umbellata.
Portulaca Thellusoni.	Portulaca Grandiflora.
,, Splendens.	Species.

Order Cactaceæ—Indian Fig Tribe.

Cactus—(many Species.)	Pereskia Bleo—(White Cactus.)

Order Apocynaceæ—Dogbane Tribe.

Tabernæmontana Coronaria
,, Flore Pleno.
Hoya Carnosa.
Vinca Rosea.
,, Alba.
Fleshy-leafed Hoya.

Order Solanaceæ—Tribe 2nd.

Brugmansia Arborea.
,, Bicolor.
Datura Ceratocaula.
,, Fastuosa.
Nolana Atriplicefolia.
,, Paradoxa.
,, Prostrata.
,, Tenella.
Ramonda Pyrenaica.

Salpiglossis Barclayana.
,, Atropurpurea.
,, Hybrida, Major.
Verbascum Formosum.
Celsia Arcturus.
,, Cretica.
,, Incarnata.
,, Orientalis.
Petunia Phœnicea.
,, Violacea.
,, Alba Grandiflora.
,, Grandiflora.
,, Nyctaginiifolia.
Species.
,, Picta.
,, Lutea.
Species.
,, Phœniceum.

Order Scrophularineæ—Fig Wort Tribe.

Alonsoa Grandiflora.
Species.
Calceolaria Pinnata.
Bolivia.
Chelone Barbata.
,, Campanulata
,, ,, Alba.
,, Glauca.
Digitalis Aurea.
,, Grandiflora.
,, Rosea.
Species.
Lophospermum Scandens.
,, Hendersoni.
Species.
Mimulus Cardinalis.
,, Roseus.
Species.
Pentstemon Digitalis.
,, Atropurpureum.
,, Coccineum.
Species.
Browallia Clemissa.
,, Elata.
,, Alba.
Chænostoma Polyanthum.
Collinsia Grandiflora.
,, Bicolor.
,, Atrorubens.
,, Bicolor, Ruthenica.
Diplacus Puniceus.
Erinus Alpinus.
Linaria Alpina.
,, Flava.
Lusania Calycina.
Maurandya Barclayana.
Species.
Morina Elegans.
Nemesia Floribunda.
,, Strumosa.
Schizanthus Grahami.
,, Hookeri.
Pinnatus.
Species var.

ORDER PASSIFLOREÆ—PASSION FLOWER TRIBE.

Passiflora Cœrulea.
,, Nitida.
,, Fœtida.
Tacsonia Pennatistipula.
Passiflora Laurifolia.
,, Granadilla.
Species.

ORDER RUTACEÆ—RUE TRIBE.

Concea.
Species.

ORDER CRASSULACEÆ—HOUSE LEEK TRIBE.

Bryophyllum Calycinum.
Sedum Cœruleum.

ORDER ARALIACEÆ—IVY TRIBE.

Panax Cochleatum.
Species.

ORDER RUBIACEÆ—CINCHONACEOUS TRIBE.

Crucianella Stylosa.
Gardenia Florida.
Chironia Species.
Gentiana Verna.
,, Utriculosa.
Species.
Mussænda Speciosa.
Pavetta Indica.
Ixora Banduca.
,, Coccinea.
,, Stricta.
,, Parviflora.

ORDER DIPSACEÆ.

Scabiosa Stellata.
,, Atropurpurea.
Species.

ORDER VALERIANEÆ—VALERIAN TRIBE.

Centranthus Angustifolia,
Valerian.

ORDER UMBELLIFERÆ—UMBELLIFEROUS TRIBE.

Didiscus Cœruleus.
Erynyium Giganteum.

ORDER CAPRIFOLIACEÆ—HONEY SUCKLE TRIBE.

Leycesteria Formosa.

ORDER CISTACEÆ—CISTUS TRIBE.

Cistus Species.
Helianthemum Guttatum.

ORDER BIGNONIACEÆ—BIGNONIA TRIBE.

Bignonia 3 Species.
Calampelis Scabra.
Streptocarpus Rexii.

ORDER SESAMEÆ—OIL SEED TRIBE.

Martynia Craniolaria.
,, Fragrans, Formosa.
Sesamum Orientale.
Martynia Lutea.
,, Proboscidea.

ORDER COMPOSITÆ—SUB ORDER CHICHORACEÆ.

Agathœa Spatulata.
Anthemis Purpurea.
Artemisia Pontica.
,, Abrotanum.
Aster Alpinus.
,, Acmellus.
,, Tenellus.
Athanasia Annua.
Bellis Perennis.
Brachycome Iberifolia.
,, Alba.
,, Albo-Lilacina.
30 New Varieties.
Cacalia Coccinea.
,, Aurea.
Calychroa Platyglossa.
Calliopsis.
,, Bicolor.
,, Atrosanguinea.
,, Fistulosa.
,, Grandiflora.
,, Nigra Speciosa.
,, Semiplena.
,, Drummondii.
Calananchi Lutea.
,, Cœrulea.
,, Bicolor.
Centaurea Americana.
,, Atropurpurea.
,, Depressa.
,, Lutea.
,, Splendens.
Chrysanthemum Album.
,, Luteum.
,, Purpureum.
Cineraria Cruenta.
,, Azurea.
Cladanthus Arabicus.

Telekia Speciosa.
Terminalia Elata.
,, Citionea.
Zinnia Elegans.

Dahlia Ripens.
,, Variabilis.
Helichrysum Macranthum.
,, Bicolor Plenum.
,, Robustum.
,, Fine Mixed.
,, Green House.
Gaillardia Picta.
,, Coccinea.
,, Nana.
,, Nova.
,, 4 Fine Species.
Gnaphalium Eximium.
,, Grandiflorum.
Helenium Douglasii.
Hieracium Grandiflorum.
Humea Elegans.
Kulfussia Ameloides.
Lasthenia Californica.
,, Glabrata.
Madia Elegans.
Oxyura Chrysanthemoides.
Podolepis Gracilis.
,, Alba.
,, Chrysantha.
Podotheca Capitala.
Rhodanthe Manglesii.
Rudbeckia Fulgida.
,, 4 Fine Species.
Sanvitalia Procumbens
Senecio Pubigerus.
Sphœnogyne Speciosa.
,, Grandiflora.
Stenactis Speciosa.
Stevia Purpurea.
,, Serrata.
Tagetes Lucida.
,, Patula.
,, Signata.
Zinnia Major.
,, Flava.
,, Kermesina
,, Purpurea.

Zinnia Alba.
,, Aurantiaca.
,, Coccinea.

Zinnia Rosea.
,, 30 Varieties.

Order Campanulaceæ—Campanula Tribe.

Adenophora Suaveolens.
Campanula Carpatica.
,, Carpatica Alba.
,, Grandiflora.
Trachelium Cœruleum.
,, Flore-pleno.

Trachelium Pulcherrium.
,, Strictum.
Species.

Order Asclepiadeæ.

Asclepias Curassavica.
,, Tuberosa.
Hoya Carnosa.

Stapelia.
Tweedia Cærulea.
Pergularia Odoratissima.

Order Convolvulaceæ—Bind Weed Tribe.

Convolvulus Panifolia.
,, Speciosus.
Ipomaea Bonanox.
,, Quamoclit.
,, Coccinea.
,, Dissecta.
,, Muricata.
,, Rubro-coerulea.

Ipomaea Pilosus.
,, Fragrans.
,, Tyrianthina.
,, Violacea.
,, Spendens.
Species.

Argyreia Acuta.
,, Cuneata.
,, Speciosa.

Calonyction Malabaricus.

Pharbitis Hispida.

Quamoclit Vulgaris.
,, Phoenicea.

Cuscuta Reflexa.
Species.
Porana Volubilis.
Pharbitis Barbata.
,, Hispida.
,, Cuspidata.
Calonyction Roxburghii.

Batatas Paniculata.
,, Pentaphylla.
,, Nil.
,, Scabra.
Species.
Chandne Moon Flower.

Order Boraginaceæ—Borage Tribe.

Anchusa Capensis.
,, Ochroleuca Italica.

Cynoglossum Glochidiatum.
Tricoloratum.

Borago Indicum.
Heliotropium Peruvianum.
,, Indicum.
Myosotis Azorica.
,, Scorpioides.

Echium Grandiflorum.
,, Grandiflorum.
Species.
Nonea Rosea.

ORDER GESNERACEÆ.

Achimenes.
,, Argyrostigma.
,, Atrosanguinea.
,, Longiflora.

Gesneria Rosea.
,, Coccinea.
Species.

Gloxinia.

ORDER HYDROPHYLACEÆ.

Cosmanthus Fimbriatus.
Nemophila Aurita.
,, Automaria.
Phacelia Conspiccia.

Phacelia Insignis.
,, Grandiflora.
Species.
,, Tanacetiflora.

ORDER VERBENACEÆ—VERVAIN TRIBE.

Hebenstreitia Dentata.
,, Fragrans.
Hedychuim Gardnerianum.
Lantana Selloviana.
,, Indica.
,, Fucata.
Clerodendron Roseum.
Verbena Aubletii.
,, Pulchella.

Verbena Melissifolia.
,, Nivea.
Species
,, Nutans.
,, Venosa.
Species.

ORDER ACANTHACEÆ—JUSTICIA TRIBE.

Eranthemum Bicolor.
,, Pulchella.
Strobilanthus Scabra.
,, Sabiniana,
Thunbergia Grandiflora.
,, Alba.
Goldfussia Isophylla.

Goldfussia Lancifolia.
Ruellia Species
,, Auriculata.
Species.
,, Aurantiaca.
Species.
Varieties.

ORDER NYCTAGINEÆ.

Mirabilis Jalapa.
,, Rubra.
,, Striata.

Marvel of Peru.
,, Tricolor
Species.

Order Amaryllidaceæ—Narcissus Tribe.

Alstrœmeria Aurantiaca.
„ Barclayana.
„ Bicolor.

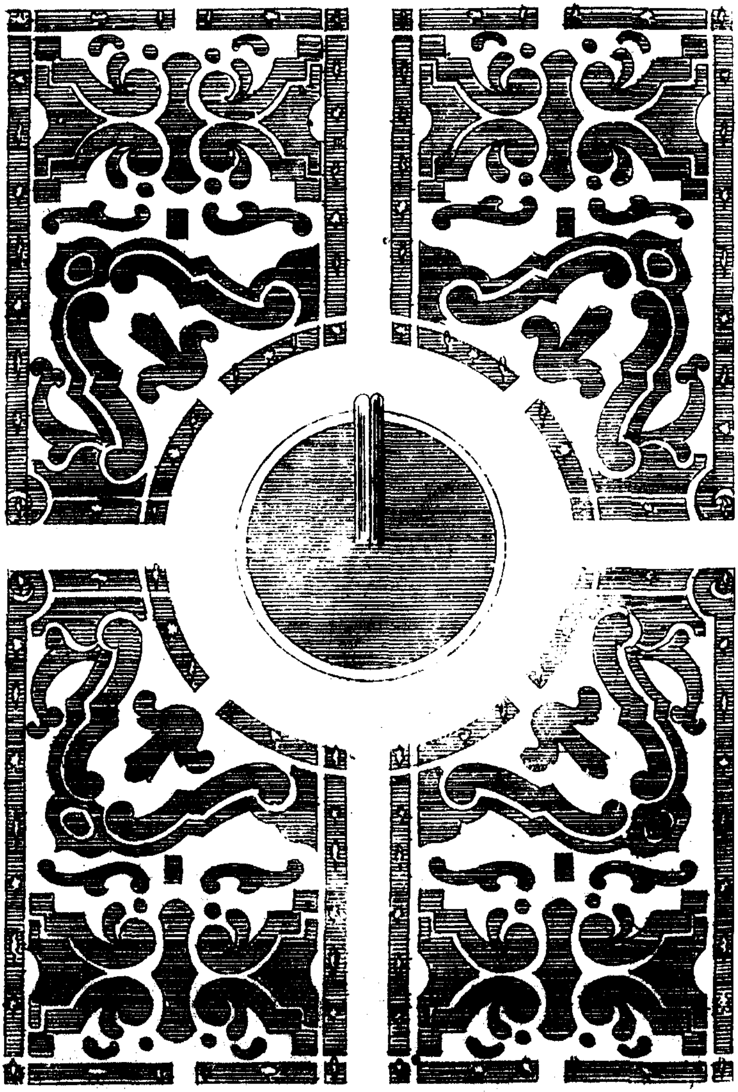
Bomaria Variabilis.
„ Bolivia.
Amaryllis Rrevoluta.
„ Amabilis.
Crinum Superbum.
„ Asiaticum.
Species.
Nerine Sarniensis.
„ Aurea.
Nerine Pallida.
„ Pulchella.
„ Tricolor.
Species.
Narcissus.
Brunsvigia Multiflora.
„ Falcata.
„ Curvifolia.
„ Ciliaris.
Hæmanthus Coccineus.
„ Humalis.
„ Corusca.
Species.

Order Liliaceæ—Lily Tribe.

Aloe Littoralis.
Agave Vivipara.
Asparagus Sarmentosus.
Brodiœa Congesta.
Gloriosa Superba.
Polianthes Flore Pleno.
„ Pink.
Anthericum Annuum.
Agave Americana.
Asparagus Racemosus.
Hyacinthus Orientalis.
Dracœna Ferrea.
„ Tuberosa.
Species.

Order Commelineæ.—Spider Wort Tribe.

Commelina Cœlestis.
„ Albiflora.
„ Tuberosa.
Sparaxis.
Species.



Plan for a Flower Garden.

FLORICULTURAL LIST.

ACHIMENES. *Scrophularineæ.*—These are very ornamental species of plants, and of easy culture; the scaly tuberous roots, by which they are propagated, must be carefully preserved during the dry weather, by occasionally moistening the earth in which they are kept, and after the commencement of the rains, the imbricated buds which they produce underground, may be divided and planted out.

ADENOPHORA SUAVEOLENS. *Campanulaceæ.*—These are pretty pale blue border flowers in England, but being chiefly natives of Siberia it is doubtful, whether they could be easily cultivated in this country.

ADONIS. *Ranunculaceæ.*—Derives its name from the blood red colour of most of the species, the Autumnalis is more generally called the "Pheasants eye" and in England much admired, the plants thrive in any good soil, they seldom exceed a foot in height and being of a bushy nature should not be closer to each other than eighteen inches and planted three or four in a group. They may be raised by seed, or by dividing the root, and sown after the monsoon.

AERIDES. *Orchidaceæ.* A. *Odorata.*—These plants possess the power of living almost entirely upon the matter which they absorb from the atmosphere, the flowers are very fragrant and hang in long racemes of a light flesh colour and spotted, from six inches to a foot long, they grow from the axils of the leaves, appearing in April and May, and are found on the Mahableshwur Hills and the Ghauts.

AGAPANTHUS UMBELLATUS.—This is a beautiful blue Lily brought from the Cape, and requires the same treatment as the other species. Is propagated by dividing the roots. A light peat sandy soil, mixed with old vegetable manure.

Agathæa Spatulata. *Compositæ.*—Named from Agathos excellent, on account of its beautiful blue flowers. They are grown in light rich soil, and require only ordinary attention in watering.

Ageratum Mexicanum. *Compositæ.*—These flowers are chiefly white, and blue, merely requiring light rich soil.

Alonsoa Grandiflora. *Scrophulariaceæ.*—This is called the "mask-flower," the colour of which is scarlet, and is easily cultivated in rich mould and multiplied by cuttings or seed.

Alstræmeria. *Amaryllidaceæ.*—These tuberous-rooted plants, are mostly from South America, with every variety of colour, and may easily be cultivated in a mixture of sand and loam during and after the rains.

Alyssum Saxatile. *Cruciferæ.*—These species of Herbaceous plants are all of a yellow colour, and are best adapted for borders and cultivated by seed in a common soil.

Amaranthus. *Amarantaceæ.*—A-tricolor, Caudatus or "Love lies bleeding," Hypochondriacus or "Prince's Feather." This flower is found wild in the South of England, many of the species are very common, and of a great variety of colours. A-tricolor is remarkable for its variegated leaves, the centre of which is red and pale yellow, propagated by seed only.

Soil.—A good loam with old manure, and watered once a day, is all that is necessary. The leaves and stalks of several of the species are eaten, and resemble spinage.

Amaryllis Belladona—Equestris—Mexican—Cape—American—Asiatica.—All these blossom during the rainy and cold season, and form a great ornament when judiciously planted amongst other border flowers. The colours are of every variety—red, white, pink, &c. The large flowering sorts are greedily devoured by birds and insects, and require much care to prevent their being destroyed.—Is propagated as all other kinds of bulbous roots.

Amaryllis Frittilaria, or Snakes' Head Lily.—From Amarysso, resplendent. The wild flower hangs pendulous, and is chequered with pale dark purple—name from Frittillas, a dice board. Most of the species are natives of China, the Cape of Good Hope, and America: they have become quite acclimated in India, and are found almost in every flower-garden under the

names of Mexican, Barbadoes, Turk's cap, Tiger lily, Parrot, &c.—Is propagated by the offsets of the bulb, which in one year will produce from three to a dozen fresh plants.—A good rich old vegetable soil: if the subsoil is rather porous, the better. When grown in pots, be careful that there is a small hole in the bottom, and that the pots are of a sufficient size to admit the expansion freely of the bulbs, which, after the decay of the old flowering stalk, may be separated and transplanted: if in borders, they will blossom during the rains and cold weather, and many during the hot season.

AMETHYSTEA CÆRULEA. *Labiatæ.*—This flower takes its name from the Amethyst, and of a blue colour, being a native of Siberia, it is doubtful whether it would be easy of culture in this country.

ANAGALLIS INDICA. *Primulaceæ.*—This plant is a Native of Nepal, colour blue, of easy culture and propagated by cuttings, in any common soil.

ANCHUSA. *Boragineæ.*—These plants are annuals and perennials, easily cultivated, and may be planted in open borders, their colours are deep blue and in some cases varied with red and white.

ANEMONE. *Ranunculaceæ.*—Named from Anemos the wind. There are the wild and cultivated. The wood Anemone is a very elegant little flower, and only opens, it is said, when the wind blows: he blossoms are of a very short duration. The colour is rather of a bluish purple, hanging like a bell with from five to fifteen petals. It grows in elevated open pastures in England. The cultivated Anemone are of two species, A-Coronaria, or Poppy Anemone, and A-Hortensis, or star-leafed Anemone. The varieties are the single and semi-double, both nearly as much esteemed as the double. Is propagated by seed for varieties, when the tubers are not procurable. They are successfully cultivated at the Cape; and tubers can be procured from thence: the tubers may be divided. A strong rich loamy soil, at least a foot and a half in depth, and well mixed with old decayed vegetable manure, so that it may retain a moderate share of moisture. If not grown in beds, they must be in pots of a large size, and this will no doubt be found the best method of culture, enabling you to take advantage of situation or other circumstances as may be desirable. The plants should occasionally have the earth loosened around the roots, and the stems earthed up, taking care that the crowns

of the tubers are never exposed, otherwise they will be seriously injured; they should be grown or kept only in such spots as may benefit by the morning and evening sun. In the selection of roots, choose those of a moderate size and form, without any hollow in the centre: when fresh, the roots are exceedingly brittle.

ANODA DILLENIANA.—An uninteresting species.

ANOMATHECA CRUENTA. *Iridaceæ.*—A pretty species of flowering plant, showy when planted in a bed by itself, producing abundance of blossom of red and lilac colours, cultivated easily from seed.

ANTHEMIS PURPUREA. *Compositæ.*—The "chamomile," plants, flowers yellow, white, and purple, so common in Europe, as to need no further description.

ANTHERICUM ANNUUM—*Liliaceæ.*—This genus comprises both bulbous and shrubby species, and may be grown in a light loamy and sandy soil, the shrubby species propagated by cuttings, and from the bulbous kind from off-sets.

AQUILEGIA ALPINA. *Ranunculaceæ.*—COLUMBINE.—The several species are very ornamental, grow in any moderate good soil, and increase plentifully by seed.

ARABIS ROSEA. *Cruciferæ.*—These species of plants of which there are seven, are chiefly adapted for ornamenting rock work, in Europe, being natives of many parts of the world.

ARDISIA CRENULATA. *Myrsinaceæ.*—These are handsome species of plants of easy culture in a good soil, and easily increased by cuttings from the root, the A-Elegans, lanceolata, solanacea, are natives of India.

ARENARIA.—These are plants of no great beauty chiefly of a white colour and grow in sandy soil.

ARGEMONE. *Papaveraceæ.*—Hardy annuals and perennials growing easily from seed in any common soil. The seeds yield an oil used for common purposes, and the fresh root bruised and applied to the part stung by a scorpion affords relief.

ARISTOLOCHIA *Aristolochiæ.*—These are mostly climbing plants, some of the species natives of India, growing in any good soil

the A-Acuminata bearing large drooping flowers of a dark purple colour, the root is exceedingly bitter, and is said to be an antidote to the bite of poisonous snakes.

Aster. *Compositæ.*—Named from Aster, a, star: is nearly of every variety of colour. Some beautiful additions have been made from Germany: they are striped and a larger size than the Chinese: the colours are, deep red, striped, pale red, pale red tipped with white, dark blue, dark blue striped, pale blue, pale blue striped, yellow tinged, white, silver white, flesh coloured, grey, &c.—Is propagated by seed sown at the end of the hot weather, and continued during the rains.—The plants should have at least eighteen inches of space between them, and the soil rich and light. If grown in pots, the varieties are easily kept distinct, and the seed preserved as soon as the plant withers and dries. A succession of flowers may be continued until the hot season.

Athanasia Annua. *Compositæ.*—This is a genus of Cape plants, many of the flowers very pretty, of a yellow colour generally known as one of the everlasting flowers, grows in a light soil.

Aulax. *Proteaceæ.*—The species grow from one to two feet high, in a sandy soil bearing yellow flowers.

Asclepias Curassavica. *Asclepiadeæ.*—This genus of tall growing plants thrives well in any good light soil, requiring room to spread and show their blossoms, they are readily grown from seed which are produce in abundance.

Azalea. *Ericaceæ.*—This genus is numerous and remarkable for its variety of colours, the plants thrive in a light loamy soil, and are easily grown from seed, only requiring to be kept moderately moist.

Balm of Gilead.—Vide Dracocephalum.

Balsam.—Vide Impatiens.

Bartonia Aurea. *Loasaceæ.*—A beautiful species, flowers of a yellow and white colour, opening at night effusing a sweet odour; they should be planted close together, so that the ground may be covered with its leaves.

Begonia. *Begoniaceæ.*—B. Reniformis.—An herbaceous succulent plant, flowers of a pale pink colour, and fragrant. Native of the moist forests of India.

BELLIS. *Compositæ.*—B. PERENNIS.—This well known flower easily cultivated by seed after the rains, it thrives best in a ric loamy soil, and should be grown in pots.

BIGNONIA. *Bignoniaceæ.*—B. RADICANS.—The ashed leaved trumpe flower; stems with rooting joints; flowers in large bunches, of scarlet orange colour; of easy cultivation as are the whole of th species.

BITTER VETCH.—Vide Orobus.

BLUMENBACHIA *Loasaceæ.* BLUMENBACHIA INSIGNIS.—These ar small plants with white flowers, the species are ornamental, and ma be sown in borders, the stem has the stinging properties of th nettle.

BOMARIA. *Amaryllidaceæ.*—The colour of these flowers are re and yellow, spotted, pink, &c. For Cultivation see Alstræmeria

BRACHYCOME, *Compositæ.*—These species of plants can only be cul tivated during the cold season, the colours are dark purple, pink, an white, the seed must be sown in a light soil, requiring a moderat quantity of water.

BRIZA. *Gramineæ.*—Quaking grass, some of the species are inter esting and easily grown from seed.

BRODIÆA. *Liliaceæ.*—These bulbs with lilac, blue and white flow ers may be grown like other lilies in a rich loam and are increased by off-sets of the roots.

BROWALLIA, *Scrophulariaceæ.*—These are handsome plants, blue and white flowers, and are easily cultivated from seed in any good soil, both are, calculated for borders. The white is an up right, and the blue a spreading, plant; both having a pretty and delicate appearance.

BRUGMANSIA, *Solanaceæ.* B. ARBOREA.—These are ornamental plants of easy culture and propagated by cuttings, they continue to flower several times in succession during the rains and cold season, the number and size of the flowers at one time has a very striking appearance, a large space must be allowed to each plant.

CACALIA. *Compositæ.* C. COCCINEA.—These plants will grow in any soil, and are mostly found in waste places, the species are numerous and found in all parts of the globe.

CALAMPELIS. *Bignoniaceæ.*—C. SCABRA.—This plant is of much beauty, well adapted for training on trellis-work, the orange coloured flowers being very showy; any light loamy soil suits it.

CALANDRINIA. *Portulaceæ.*—The species of this genus are very pretty, and only require light rich soil. They are easily cultivated by seed.

CALCEOLARIA. *Scrophulariaceæ.*—These are both shrubby and herbaceous plants, they thrive best in a light rich loamy soil and may be cultivated both by seed and cuttings. The Hybrids raised from this genus are very numerous and showy, the colours are chiefly purple, orange, yellow, and spotted.

CALLICHROA. *Compositæ.*—C. PLATYGLOSSA.—This is a border flower, yellow with a broad ray, requiring a good soil and should only be watered by the hand, it seldom exceeds a foot in height.

CALLIOPSIS. *Compositæ.*—These flowers are mostly of a very beautiful bright yellow with a dark eye in the centre, the Rosea being the only exception, grown easily from seed in any rich light soil.

CAMPANULA. *Campanulaceæ.*—This genus of plants including the Canterbury-bell and Venus's looking glass is well known for its ornamental beauty and profusion of flowers, all the species grow freely in any soil and are propagated by seed and dividing the roots.

CANDY TUFT.—Vide Iberis.

CANNA. *Canneæ.* C. INDICA.—There are several species of this genus, the colours are scarlet, orange, red and yellow mixed, they blossom throughout the year and are cultivated by dividing the roots or by seed, the latter should be sown whilst fresh or if otherwise they will require to be soaked for a few hours in water, a good common soil is all that is requisite.

CANTERBURY BELL.—Vide Campanula.

CAPE ASTER.—Vide Cineraria.

CAPE JESSAMINE.—Vide Gardenia.

CASSIA. *Leguminosæ.*—This is a numerous genus of ornamental plants, growing from one to many feet in height in any tolerable good soil, and are easily raised from seed.

CASTILLEJIA. *Scrophularineæ.*—An ornamental genus of plants growing freely in a good light soil and may be raised either by seed or by dividing the roots.

CATANANCHE. *Compositæ.*—This is a pretty order of small plants, colours, yellow, white and blue, succeed well in common soil, and may be increased by seed or dividing the roots.

CELSIA. *Scrophulariaceæ.*—This is a genus of ornamental plants, growing from two to six feet high, colours yellow and orange, the Coromandeliana a native of India, raised from seed in any garden soil.

CENTAUREA. *Compositæ.* C. ATROPURPUREA.—The sweet Sultan. The various species of this beautiful and elegant genus are easily grown from seed in any light loamy soil, they are of various heights from twelve inches to five feet, the seed may be sown in pots or small beds at the close of the rains, then transplanted and they will blossom during the cold weather. The flowers are fragrant and of different shades of colour, purple, blue, yellow, white, red, brown, &c.

CENTRANTHUS RUBER. *Valerianaceæ.* HIND JALLUKREE.—This is an ornamental annual, generally grown from European seed, the colours of the different species are red, blue and white, and thrives in any good garden soil.

The Valerian grows wild in some of the upper parts of Bengal.

CEREUS. *Cactaceæ.* NIGHT BLOWING CEREUS. CEREUS GRANDIFLORUS WHITE AND YELLOW.—From Cereus, signifying pliant like wax referring to the shoots of some of the species being pliant. Many of the species produce the most beautiful flowers, the stems are angled and jointed, the blossoms open in the evening or during the night, and die away towards the morning, they are all creepers.

CEREUS TRIANGULARIS.—A creeping plant with triangular stems, sends out roots at the joints which adhere to walls or any support near. The flowers are large of a yellowish white colour, with yellow anthers. It should, if grown in the garden, have a strong trellis work to support it.

CEREUS TRUNCATUS.—This species produces flowers during the cold season, which are of a rose colour ; it is indigenous to the Brazils, the whole of the genus seem to thrive in any tolerable soil, without

much watering, young plants may be obtained by separating the branches at the joints, but then they require to be watered daily until the roots have struck.

CHAMOMILE.—Vide Anthemis.

CHEIRANTHUS CHEIRI. *Cruciferæ*. WALL FLOWER.—Named from Cheir, the hand, Anthos a flower. This flower derives its name from the circumstance of its growing wild on old walls and ruins in England. It is of a light yellow colour, but, when cultivated in gardens, assumes a much richer and darker tint, mixed with brown. The double variety, of a yellow colour, and striped with deep orange, is seldom known to blossom here. The name of Gilly Flower is given to the stock and a species of pink carnation, these being the only flowers formerly cultivated by dames in their baronial castles. Is propagated by seed, during and after the rains: space of a foot and a half must be allowed each plant if in beds, as it grows nearly two feet high.

CHELONE. *Scrophulariaceæ*.—From *Chelone* a tortoise, to the back of which the helmet of the flowers is fancifully compared, the flowers are scarlet, orange, white and purple, the species thrive in any good garden soil, and may be increased by dividing the roots.

CHORIZEMA. *Leguminosæ*. C. SPECTABILIS.—This plant was first found in the West Coast of New Holland by Labillardiere, some of the species are scarlet coloured, others yellow and red they grow best in a rich loamy soil, and may be raised from cuttings, as well as seed which they produce in abundance.

CHIRONIA. *Gentianeæ*.—This genus of plants are all indigenous to the Cape of Good Hope, the flowers are rose coloured, white, yellow and purple, the plant grows to the height of two feet and should be continued by cuttings, they require a light loamy soil.

CHŒNOSTOMA POLYANTHUM. *Scrophulariaceæ*.—These are pretty dwarf plants, of a white and light yellow colour, well adapted for borders, and thrive in any garden soil.

CHRISTMAS FLOWER.—Vide Chrysanthemum.

CHRYSANTHEMUM. *Compositæ*. CHRYSANTHEMUM INDICUM, CHRISTMAS FLOWER. "*Gool Dovodee*."—Common in England: name from

Chrysos gold, and Anthos, flower. There are several varieties —common in all gardens. They commence flowering generally in November, and continue for several months. The colours are mostly yellow orange, and a purplish colour mixed with white, propagated by seed roots, and suckers, and grow well in any tolerably good soil.

CINERARIA. *Compositæ*. C. AZUREA.—This genus of plants known by the name of Cape Aster produce abundance of showy flowers of orange coloured, yellow, purple and red varieties, they grow from two to three feet high, the leaves being covered with a soft white down, grown from seed and thrive in any good garden soil.

CISTUS. *Cistaceæ*. ROCK-ROSE.—This genus of plants are mostly used for ornamenting rock-work, though some grow to the height of four feet, they do well in most garden soils and may be cultivated either from seed or by cuttings.

CLADANTHUS. *Compositæ*. CLADANTHUS ARABICUS.—These are small dwarf plants, bearing yellow flowers, and grow in any soil.

CLARKIA. *Onagraceæ*—These are handsome annuals which make a showy display in flower borders, their colours are rose, white and purple, they ripen seed in abundance which may be sown in any good soil.

CLEMATIS. *Ranunculaceæ*. C. GOURIANA.—This species takes its name from Klema, a vine branch from its climbing properties. The Gouriana or Traveller's joy, flowers white, at the close of the rains, and gives out a very strong perfume, it is a hardy plant grows in any soil. The whole species are adapted for trellis work and easily increased by dividing the plants. The colours are various, white, blue, lilac, yellow, &c.

CLEOME. *Capparidaceæ*. C. PENTAPHYLLA.—The species of this genus are very pretty and grow well in a light rich soil, the colours of the flowers are white, red, purple and yellow, cultivated easily from seed.

CLIANTHUS. *Leguminosæ*. C. PUNICEUS.—From *Kleios* glory and *Anthos* a flower an elegant plant attains the height of 8 or 10 feet and adapted for a shrubbery, growing well in any moderate rich soil, native of New Zealand.

CLINTONIA. *Lobeliaceæ*. C. ELEGANS.—These are pretty border plants, colours white and blue, they flower and give seed abundantly and thrive in any good soil.

CLOVE PINK.—Vide Dianthus Caryophyllus.

COBÆA. *Polemoniaceæ*. COBÆA. SCANDENS.—This is a fast growing creeper, the flowers of which are purple, and the stems attach themselves to any rough surface, like some of the Cereus species and well adapted for screening walls.

COLLINSIA. *Scrophularineæ*. COLLINSIA. GRANDIFLORA.—These plants are mostly all of a bright colour, and well adapted for borders to a flower garden, the colours are mostly yellow; but the *Scabriuscula* is red and yellow, these plants require a tolerable good soil with plenty of water.

COLLOMIA. *Polemoniaceæ*. COLLOMIA COCCINEA.—These plants have a weedy appearance and though cultivated in Europe are hardly worth the trouble.

COLUMBINE.—Vide Aquilegia.

COMMELINA. *Commelineæ*.—Some of the plants of this genus are very handsome, the colour of the flowers mostly blue, and propagated by dividing the tubers.

COREOPSIS TINCTORIA. *Compositæ*.—There are several varieties of this elegant flower. The leaves have a strong scent of fennel. The colour of the flower is a deep orange yellow striped with red. The seed may be sown at the commencement of the rains, or at any time after. It requires no particular care beyond other border flowers.

CORRÆA. *Rutaceæ*.—The species of this genus are mostly shrubs the flowers white and scarlet, each plant requires a tolerable space to grow in, as it attains the height of six or more feet, and should be placed in a shrubbery where the soil is good.

CORYDALIS. *Fumariaceæ*.—C. GLAUCA.—These plants are of a rapid growth and well adapted for covering trellis work.

COSMEA. *Compositæ*. C. BIPINNATA.—The species of this genus are mostly annuals and ornamental flowers, colours purple, white and yellow, the roots are tuberous, and may be cultivated by dividing the same or by seec

COTULA. *Compositæ*. COTULA. AUREA.—This is a common plant with little golden-ball like flowers and is cultivated in any garden soil, by seed.

CROCUS. *Iridaceæ*. CROCUS VERNUS.—This plant never flowers in the Western part of India, the roots when planted only produce leaves, wither and die.

CROTALARIA. *Leguminosæ*. CROTALARIA. ELEGANS.—This is a numerous genus, many of the species beautiful, the seeds are contained in inflated pods, which rattle when shaken, grow readily in any tolerably good soil, and abound in this country.

CRUCIANELLA. *Rubiaceæ*. CRUCIANELLA. STYLOSA.—This is a pretty little pink coloured flower, native of mountains in Persia and therefore not likely to grow in the Southern parts of India.

CUPHEA. *Lythraceæ*.—This genus of plants is rather pretty; the flowers being purple, scarlet and red, are grown from seed and by cuttings in tolerable light soil.

CYCLAMEN. *Primulaceæ*. CYCLAMEN PERSICUM.—This is a bulbous species, thriving in a light vegetable mould and may be cultivated by seed or its tubers.

CYCLANTHERA. *Liliaceæ*. CYCLANTHERA PEDATA.—This species is grown, and cultivated as the *Cyclamen*.

CYNOGLOSSUM. *Boragineæ*.—These are pretty little annuals, natives of Europe, the colour of the flowers mostly blue, purple, white and purple, grow in any common soil.

CYPRUS VINE.—Vide Ipomea quamoclit.

CYTISUS. *Leguminosæ*. CYTISUS ARGENTEUS.—These species are mostly hardy trees or shrubs found all over Europe, the trees mostly bearing flowers of a yellow colour, with a few exceptions of white and purple, they are readily increased by seed, layers, or buds.

DAHLIA. *Compositæ*. DAHLIA VARIABILIS.—This flower is a native of Mexico, and there grows in a sandy soil. It was first introduced into England in the year 1789, and into India about 20 years ago. It is now very common in all parts, and, from its great diversity of colour, is generally cultivated with

much care, especially by Europeans. The leading varieties of the fertile rayed are—purple, rose, pale white, yellow, yellow and orange, pale yellow, light blue, dark red, &c. Flowers single. Of the barren rayed species, there are the scarlet, bright scarlet, orange, saffron and yellow flowered, single, semi-double, and double, and several sub-varieties. It propagated by dividing the roots and cuttings for ordinary purposes, and by seed for new varieties. If the tubers are cut, be careful to preserve an eye in the part, otherwise it will throw out root fibres but no shoots. If seed is to be preserved, remove all the tubers carefully, so that the nourishment may be given to the flower; and if to produce tubers for the following season, remove the flowers when early in bud, after having ascertained the colour. The finest double species are grown in this manner, though you may occasionly get a double flower from seed. The method by which favorite sorts may be increased is as follows. The old tubers are to be placed in a large flower pot of good leaf mould and old manure, leaving the crowns only exposed. The shoots which quickly rise from the tubers are cut or clipped off, when about two or three inches in length, and put into fresh pots, or in a bed, where they must be carefully watered, and shaded until they have struck and taken root, when they will grow vigorously. Tubers that have no eyes near the crown should be rejected. If grown from seed, the plant should be removed when about four or six inches high, and if placed in the ground, a space of two feet at least between each plant allowed; and as the plant arrives, at maturity, it must be supported by strong sticks. When the stalk has become dry, the tubers may be removed and kept in a room, either upon sand or pounded charcoal. The plants should have all the lower straggling branches removed with a sharp knife, and so trained that, when in blossom, the flowers may appear to the greatest advantage. The soil should be a light rich loam, mixed with sand. The tubers may be left in the ground, but it is not safe to do so, rats and other vermin being destructive to them.

Daisy.—Vide Bellis.

Datura. *Solanaceæ*.—These flowers, the colours of which are white, yellow, purple and blue, are easily cultivated from seed, common all over India.

Daubentonia. *Leguminosæ*.—Daubentonia Punicea.—Hand-

some plants brought from South America, closely allied to the Piscidia, grow well in a sandy loam.

DELPHINIUM. *Ranunculaceæ.* D. AJACIS.—The Lark spur is grown very commonly by the natives after the rains, colour a deep blue on a spiral stem ; the flower takes its name from the resemblance to the Dolphin. There are many species all of which are easily grown from seed, the natives are in the habit of sowing the seed under peach and orange trees. When grown in beds, and the flowers of one colour they have a showy and pretty appearance, a space of six inches should be allowed between each plant.

DIANTHUS. *Silenaceæ.* DIANTHUS BARBATUS.—From Dios divine and Anthos a flower. *D. Barbatus* the sweet William easily cultivated by seed and slips, blossoms almost throughout the year and requires only a good garden soil.

DIANTHUS CARYOPHYLLUS.—The Clove Pink or Carnation grows wild in various parts of England. This has long been a favorite flower and is now almost acclimated. It seldom ripens its seed, and two varieties are only to be met with in the Deccan. The dark crimson is not so full a flower as the variegated crimson and white; they both possess equal perfume and fragrance, but the latter, when carefully grown, is certainly the most beautiful. A full grown carnation should neither have its petals too crowded nor too thin, but regularly disposed, so that all its beauties may be observed at once. The stem or foot stalk seldom exceeds eighteen inches, and this should be carefully supported. Is propagated by layers and pipings; also by seed when procurable. The plants must always be sheltered from heavy rains, and also from the hot winds; yet kept in an airy situation. If placed under cover for any length of time, they run up to thin stalks, seldom throwing out blossoms. The time for taking cuttings is when the plant is in blossom; and this may be done either at the commencement of the rains, or in the cold weather. When the plants appear to be about to blossom, all the buds save a couple should be carefully removed, as well as any small shoots on the foot stalk between the leaves. When layers are required, they must be removed from the stem with a knife or scissors, and should not be longer than two or three joints. Cut off all the lower superfluous leaves smooth, then throw the layers into water for a couple of hours. Plant them in baskets at about six inches apart, which have been filled with old rich vegetable loam;

water so as to settle the earth round the stems, and place in a shady spot, not under trees, if in the rainy season. In about six weeks they will have struck, and may be removed into pots. Do this carefully, not disturbing the earth round the young roots, which are very tender, and replace in the shade again until sufficiently strong to bear exposure to the sun. The variegated have only two colours, and when stripped are called Flakes, but if spotted, Picotees. Ants (black, red and white) are very destructive to the roots. An old plant of Flakes or Picotees, will occasionally lose both stripes and spots during the hot season, and become quite white when in flower, but resume during the rains their original colours of deep red and white. The colour thus changing may be justly attributed to the dry hot weather, as it has been remarked in England, that sometimes fine double running flowers have returned to their whole or original colour during very dry or warm summers.

DIANTHUS CHINENSIS.—Common in all gardens—of various colours, and some mixed—they flower all the year round, and give seed immediately as it fades, and which will spring up again if sown. The double flowered varieties are much esteemed: the colours are white, red, crimson, red and white.

DIDISCUS. *Umbelliferæ.* DIDISCUS CÆRULEUS.—These plants are from Australia, and are grown from seed in a light loamy soil, and the plants either reared in pots or in flower-beds.

DIGITALIS. *Scrophularineæ.* DIGITALIS PURPUREA.—This plant so called, from the resemblance, the flowers bear to the finger of a glove. An active medicine is obtained from the leaves. The flowers grow in any common garden soil but are rare in this country.

DILLWYNIA *Leguminosæ.* DILLWYNIA GLYCINIFOLIA.—Elegant shrubs when in flower, generally of a scarlet and orange colour, from New South Wales and New Holland. They should be grown in pots in a light loamy soil and regularly watered.

DIPLACUS. *Scrophulariaceæ.* DIPLACUS PUNICEUS.—The Monkey flower, a pretty genus of plants, with flowers yellow, or scarlet, they are grown in a rich sandy loam and may be propagated by cuttings, they are natives of California.

DODECATHEON. *Primulaceæ*. DODECATHEON MEADIA.—Ornamental plants when in flower, colours, lilac, purple and white, grown in a light soil and cultivated by dividing the roots.

DOLICHOS. *Leguminosæ*. DOLICHOS LIGNOSUS.—These are twining plants. Natives of India and grow in any good soil.

DRACOCEPHALUM. *Labiatæ*. DRACOCEPHALUM ALTAIENSE. Many of these species are well known amongst which is the D. Canariense the balm of Gilead, with pretty blue flowers, the scent only lies in the leaves, and the plant seldom exceeds eighteen inches in height, the other species have large splendid blue flowers, and easily reared from seed, the plants are best grown in pots.

ECHIUM. *Boraginaceæ*. ECHIUM GRANDIFLORUM.

EPILOBIUM. *Onagraceæ*.—These are mostly Alpine plants, and therefore not likely to be cultivated with success in South India.

ERICA. *Ericaceæ*. ERICA COCCINEA.—This genus includes numerous species of beautiful plants, found principally at the Cape, but as there is great difficulty in managing and propagating them even in Europe, no direction can be laid down for successfully cultivating them in India.

ERINUS. *Scrophularineæ*. ERINUS ALPINUS.—This is a little plant with purple flowers and adapted for rock work in Europe, requiring little soil.

ERODIUM. *Geraniaceæ*. ERODIUM GRUINUM.—So named from Geranos, a Crane. They are mostly all from the Cape of Good Hope. Most of the flowers are devoid of odour, and those which are particularly so are the most beautiful, whereas those again whose petals are the least showy, diffuse towards the evening and during the night a most powerful perfume; this is particularly the case with such as have white petals spotted with red. The almost innumerable varieties now produced in England have originated by hybridization, and to enumerate them all here is unnecessary. "The flowers of all the kinds are borne in umbels on a peduncle, which in the stemless kinds arises from the centre of the source of the leaves, and in the shrubby kinds from the axil of almost all of the upper leaves. The number of the flowers borne in an umbel is various in different kinds, and greatest in those of the horse-leafed group." The commonest sorts cultivated in gardens are the deep scarlet, light pink, and ivy-leafed. The

latter has a strong perfume, and scents the fingers if only slightly touched. The ordinary mode of propagation is by cuttings and seed. Almost all the varieties produce seed, which will immediately grow if sown, and should be transplanted as soon as two or three perfect leaves are formed. The cuttings grow most readily, and should be taken off at the joints when the wood is assuming a brown appearance, and beginning to ripen. The fibrous-rooted herbaceous sorts may be multiplied by dividing the roots. As all the species are rapid growers, they require pruning, and to be occasionally changed into fresh pots. They require a light rich soil of loam and old well rotted stable manure, or else leaf mould and sand: the cuttings when put down must be removed for a time to a shady spot, and the earth kept continually moist. I must particularly caution against cutting the plants during the rains, as the whole plant suffers by the ends of the shoots decaying; neither should they be exposed during the hot winds, especially the soft velvet-leafed varieties.

Eryngium. *Umbelliferæ.* Eryngium Giganteum.—This is an extensive genus of plants, some of which are ornamental and well adapted for the flower border the colours are blue, light blue, white, light white, and green, they thrive best in a sandy soil.

Erysimum. *Cruciferæ.* Erysimum Perowskianum.—This is the only one of a numerous genus at all ornamental, it thrives in any soil, the flowers are dark orange colour.

Eschscholtzia. *Papaveraceæ.*—This is a very beautiful little flower, of a deep yellow orange colour, very delicate. It blossoms only in the cold weather, and requires care in transplanting:—not more than one plant in a pot, which should be deep—the root being long, and tapering: grown from seed.

Eucharidium. *Onagraceæ.*—This is a small plant bearing a purple flower, and will thrive in a good garden soil.

Euphorbia. *Euphorbiaceæ.* Euphorbia Variegata.—This is a variable and very extensive genus of plants, all of which abound in a milky juice. E. Variegata will be raised from seed in any common garden soil.

Evening Primrose.—Vide Godetia and Œnothera.

Everlasting Flower.—Vide Gnaphalium.

Eutoca. *Hydrophyllaceæ.* Eutoca Multiflora.—This genus of plants is pretty and may be sown in flower borders, but not too close together, their colours are blue, pink and violet.

Fennel Flower.—Vide Nigella.

Flax.—Vide Linum.

Forget Me Not.—Vide Myosotis.

Fox Glove.—Vide Digitalis.

Francoa. *Francoaceæ.* Francoa Appendiculata.—These are beautiful plants when in flower, and may be planted out in the open garden, they can be only cultivated by seed.

Fritillaria. *Liliaceæ.* Fritillaria Imperialis.—These are bulbous rooted plants with very showy flowers, growing well in any light garden soil, the colours are various. They are increased by off sets.

Fuchsia. *Onagraceæ.* Fuchsia Hybrida.—This is a beautiful genus of plants, and can only be cultivated during the rains and cold season, as they die off with every care taken during the hot weather, they grow freely from slips, procurable at the Neilgherries, and may be sent to a great distance if packed either in a tin case, or bamboo, surrounded with damp moss, the soil in which they strike best is a light sandy loam, the slips until they have thrown out strong shoots, and leaves must never be exposed to the sun, and even then only early in the morning.

Gaillardia. *Compositæ.* Gaillardia Picta.—These plants are chiefly from North America, grow in any garden soil, and may be increased by dividing the roots, common everywhere, the scent of some of the species are unpleasant.

Galega. *Leguminosæ.* Galega Orientalis.—These are tolerably ornamental plants, and as they form a bush of small size they require room when planted out, the colours are mostly blue and white.

Gardenia. *Rubiaceæ.* Cape Jasmine.—This is a handsome genus of plants, with flowers highly scented, readily grown by cuttings, they thrive in any garden soil and only require a moderate share of water to flower abundantly, their colours are pink, white, and pale yellow, most of which are natives of India.

Garland Flower.—Vide Hedychium.

Gentiana. *Gentianaceæ.*—This is an extensive genus of plants some of which are very pretty, colours, green, blue, purple and white, and are found wild on the Himalayas, they should be grown in a light loamy soil, mixed with vegetable mould, the whole of the species possess a bitter tonic principle.

Gesneria. *Gesneriaceæ.*—Showy species of plants mostly with scarlet and orange colored flowers, they thrive well in any light soil, and may be propagated by seed and cuttings.

Geranium.—Vide Pelargonium.

Geum. *Rosaceæ.* Geum Coccineum.—This is an ornamental genus of plants, the G. Coccineum being extremely handsome, but as these plants are mostly the produce of N. America and Russia, are not likely to be easily raised in this country, they require a light loamy soil, and are increased by dividing the roots or by seed.

Gilia. *Polemoniaceæ.* Gilia Achillifolia.—These are beautiful annuals and of easy cultivation, may be grown either in the flower garden, or in pots during and after the rains, easily propagated by seed in any light soil.

Gladiolus. *Iridaceæ.*—This is an extensive genus of flowering Cape bulbs, colours of which are scarlet, orange, white striped, &c., and are propagated by dividing the roots.

Glaucium.—*Papaveraceæ.*—Glaucium Persicum.—These are very handsome plants, and showy either in borders or patches, they require a moderate good soil, the plants not too near each other, and the seed sown at the end of the rains, they are natives of the South of Europe and Persia. The colours, red, orange, yellow and purple.

Globe Amaranth.—Vide Gomphrena.

Gloriosa Superba. *Liliaceæ Hind.* Butchnag.—From Gloriosus, Magnificent. This beautiful lily is a creeper, and blossoms at the commencement of the rains: it is found in the beds of ravines and edges of rivers. The flowers are of a white, yellow and orange colour, the petals long and fringed. It lasts about eight days, undergoing various changes during that time. The root is a strong poison.

HYACINTHUS. *Liliaceæ.*—HYACINTHUS ORIENTALIS.—These well known plants in Europe, are much esteemed for their beautiful and ornamental appearance, they are grown both in beds and glasses of water, the H. Orientalis is one of the most beautiful and fragrant, native name Sambul, bulbs of different species are easily procurable from China.

HYDRANGIA HORTENSIS. *Saxifragaceæ.*—THE GUELDER ROSE. From Hydor, water, and aggion, a vessel—in allusion to some of the species growing in water, and the resemblance the capsule bears to a cup. The flowers are of various shades of rose colour. Propagation may be effected by cutting or layers. The soil most desired by the hydrangea is a black earth, mixed with well rotted leaf mould, and a small portion of sand. It requires moisture, and a supply of water should be freely given to it.

HYPERICUM. *Hypericaceæ.*—ST. JOHN'S WORT. These shrubs and herbaceous plants, all bear yellow flowers with one exception, the Cochin Chinese, they are inhabitants of all parts of the world, and grown by seed in any good garden soil.

IBERIS. *Cruciferæ.*—CANDY TUFT. Grows wild in England: named Iberis from Iberia, or Spain, easily grown from seed, the colours pink and white, and blossom towards the close of the rains.

IMPATIENS. *Balsamineæ.*—IMPATIENS GLANDULIGERA.—*Noli me tangere.* So named because the ripe capsules, on being touched, fly open and scatter their seeds. A native of India. The double flowered are most prized. The colours are rose, pink, white, blue, and variegated. When the true colour of the plant from seed can be depended upon, if sown in large beds, or patches, they have a pretty effect in full blossom, and may of course be arranged according to the taste of the cultivator. Is propagated by seed at the commencement of the rains, in small beds, and then transplanted. After the first blossoms are off they may be cut down, and will throw out fresh shoots, but will not blossom so fine as the first. A rich light loamy soil, with old decayed stable manure. No plant should ever be closer than one foot, especially if the soil is rich, and all lower superfluous leaves and stalks removed from the stems. They thrive well in pots, and during the time they are in blossom look very ornamental placed amongst evergreens.

INDIAN SHOT.—Vide Canna Indica.

INDIGOFERA. *Leguminosæ.* INDIGOFERA TINCTORIA. INDIGO.—Some of these plants are very beautiful, natives of India, and worthy of a place in any garden; the colours being purple, red or pink.

IPOMEA. *Convolvulaceæ.* IPOMEA COCCINEA.—A beautiful genus of climbing plants, herbaceous and shrubby, well adapted for covering trellis work, walls, or pillars, growing easily from seed, at the commencement of the rains in any good soil, when they produce flowers in profuse abundance.

IPOMEA BONA-NOX. Muricata. (Hairy.) Rubro-Cerulea (blue and pink.) Tyrianthina. (Bright violet.) Violacea. (Violet Blue.) Splendens, (pale red.) Tuberosa (yellow species.)

IPOMEA QUAMOCLIT. *Cyprus Vine.* CRIMSON QUAMOCLIT.—Flowers in the cold weather, of a most beautiful bright crimson colour; tube long, slender; in gardens pretty common.

IPOMOPSIS. *Convolvulaceæ.*—This genus of twining plants requires the same treatment as the Ipomœa, and is applied to the same uses.

IRIS. *Iridaceæ.* IRIS XIPHIOIDES.—Iris named from Iris the eye alluding to the beauty of the colours of the flower. There are the fibrous rooted and tuberous rooted kinds: species numerous, hybrids, the tuberous rooted are said to be the most difficult to cultivate, though most of the species thrive well in India, they require merely a good rich soil.

ISOTOMA. *Lobeliaceæ.* ISOTOMA AXILLARIS.—This is a beautiful elegant plant, the flowers of which, look like a large lilac jessamine, and are cultivated like the Lobelia.

IURINEA. *Compositæ.*—All the species succeed well in any common soil, the colour of the flowers are purple, red and yellow, and may be cultivated from seed, or by dividing the roots.

IXIA CHINENSIS AND CAPENSIS. *Iridaceæ.*—These beautiful flowers vary in colour, and form, they are mostly from the Cape of Good Hope, and require the same cultivation as plants of the Lily tribe, and are propagated by dividing the bulbs.

IXORA BANDHUCA, *Cinchonaceæ.*—JUNGLE GERANIUM. *Hind.* BUCKOLEE.—A spreading shrub, smaller than I. Coccinea, but equally common: in flower almost during the whole year—of a pale crimson colour: there is also a white variety:—blossoms during the rains.

Jasminum Grandiflorum. *Hind.* Chumbaleb, or Iatee Iai.—This species is very much prized by the natives: the large white flowers having a most powerful scent, and being in blossom throughout the year, are used as garlands on all festive occasions. Is propagated and grown as the former.

Jasminum. *Jasminaceæ.* Jasminum Odoratissimum.—The yellow Jasmine; an elegant shrub, with small shining leaves, flowers bearing a sweet scent—a native of Madeira, introduced into India.

Jasminum Officinale.—Common white, with a much more powerful scent: used generally for covering trellis work by Europeans. The natives grow it in bushes, and use the flowers at most of their festivals. Is propagated by layers: the plant does not require any particular care, further than watering.

Jerusalem Sage.—Vide Phlomis.

Jungle Geranium.—Vide Ixora.

Kaulfussia. *Compositæ.* Kaulfussia Amelloides.—This is a small annual plant with bright blue flowers, the florets, of which curl back after they have been expanded a short time, it requires a light soil and the seed may be sown at the end of the rains.

Kennedya. *Leguminosæ.*—A genus of beautiful plants, with lilac, and crimson coloured flowers, with short Keels whilst the K. Coccinea have long ones, they are propagated by seed, in any good soil.

Lantana. *Verbenaceæ.* Lantana Selloviana.—These are large shrubs, producing pink, yellow, orange colored heads of flowers, they blossom at all seasons, and are found in most gardens, the leaves have the scent of black currents, the berries are eaten, may easily be propagated by seed, or suckers.

Larkspur.— Vide Delphinium.

Lasthenia. *Compositæ.*—These plants are Natives of California, flowers yellow, and are adapted for borders.

Lathyrus. *Leguminosæ.* Lathyrus Odoratus. *Sweet Pea.*—This genus is formed for the most part of very handsome plants when in flower, but require sticks or trellis work to support them. The seed should be sown after the rains, at the commencement of the cold season, in pots. It is very seldom that they blossom.

Lavatera. *Malvaceæ.* Lavatera Salvitellensis.—These annuals are common but showy flowers in the garden, colours pink, light blue, and they will thrive in any soil, and are increased by seed, and cuttings of the ripened shoots.

Lead Wort.—Vide Plumbago.

Ledum Cistus. *Ericaceæ.*—Cultivated the same as Lavender.

Leonotis Leonurus. *Labiatæ.* Scarlet Dandelion.—A beautiful small scarlet flower, native of the Cape, and now common in all gardens; blossoms throughout the year, and is very difficult to get rid of when once sown: any soil seems to suit it.

Leptosiphon. *Polemoniaceæ.*—These are pretty annuals allied to the Gilia, and propagated in the same manner, the colours are white, blue and purple.

Leucadendron. *Proteaceæ.*—These are a handsome genus of shrubs, growing to a large size, with heads of yellow flowers, and silky leaves, and may be cultivated in any good garden soil.

Leucospermum. *Proteaceæ.*—An interesting genus of plants, with entire downy, or hairy leaves, and terminal heads of yellow flowers. They require the same culture as the Protea.

Limnanthes. *Limnanthaceæ.*—These flowers are from California, and are of a yellow colour, with a border of white and are slightly fragrant, they are readily grown from seed as other annuals.

Linaria. *Scrophulariaceæ.* Toad Flax.—These are common plants, and may be easily raised from seed; colours, mostly, purple, blue and yellow.

Linum Austriacum.—Some of these flowers are pretty, and may be placed in a border, the flax is too well known, to need any description here.

Linum. *Linaceæ.*—Flax.

Lisianthus. *Gentianeæ.* Lisianthus Russellianus.—This is a handsome plant, with purple flowers, the other species are white and yellow, the seed should be sown in a light vegetable mould, in pots, and transplanted when about three inches high, the flowers are large and handsome and continue perfect for many days.

species are remarkable for being sensitive to the touch. The pink and yellow flowers of one of the small shrubby kinds are particularly beautiful in the rains, readily grown from seed in any soil.

MIMULUS. *Scrophularineæ.*—Monkey flower.

MIMULUS CARDINALIS.—These plants are well suited for flower borders, the colours are chiefly blue, red and yellow, easily grown from seed in any garden soil, it takes its name from *Mimo*, an ape, the seed bearing some resemblance to the face of a monkey.

MIRABILIS JALAPA. *Nyctaginaceæ.* Native name GOOL BAJEE OR ABBAS.—This plant is very beautiful though very common, and known as the Marvel of Peru. The flowers are of various colours, red, white and yellow, also variegated red and white, yellow and white. The root when dried is prepared for medicinal use. It becomes in a short time quite a weed in the garden. Is propagated by seed, and in any soil.

MONKEY FLOWER.—Vide Diplicus and Mimulus.

MORINA. *Dipsaceæ.* MORINA ELEGANS.—This species is a native of Persia, the colours red, and white, grown from seed as most other annuals.

MOUNTAIN SORREL.—Vide Oxyura.

MYOSOTIS. *Boraginaceæ.*—The Forget me not.

MYOSOTIS PALUSTRIS.—This plant is common in England, and is grown easily here by seed, in a light soil: which should be thinly sown in pots.

NARCISSUS. *Amaryllidaceæ.*—These flowers are of easy culture in a light soil, though they throw out a profusion of leaves, they rarely blossom.

NASTURTIUM.—Vide Tropæolum.

NELUMBIUM. *Nymphaeaceæ.* NELUMBIUM SPECIOSUM—Large water lily, grows wild in tanks, in all parts of India.

NEMESIA. *Scrophularineæ.* NEMESIA FLORIBUNDA.—These plants may be cultivated from seed in any rich light soil, the colour of the flowers is purple.

NEMOPHILA. *Hydrophyllaceæ.* NEMOPHILA AURITA.—These plants are all annuals, and require a great deal of moisture, growing and

flowering in shady situations, the colors are white and purple, blue and dark purple, they are natives of California, and North America.

NICOTIANA. *Solanaceæ.* TOBACCO.—Being a native of India, and of common occurrence, needs no description.

NIGELLA. *Ranunculaceæ.* N. SATIVA.—Fennol-flower.

NIGELLA HISPANICA.—Some of the flowers are pretty, and only require to be sown in open ground, at the commencement of the rains, the colours are chiefly pale blue and yellow.

NIGHT BLOWING CEREUS.—Vide Cereus.

NIVENIA.

NOLANA. *Nolanaceæ.* NOLANA GRANDIFLORA.—Trailing annual plants with white, yellow and blue flowers, easily raised from seed, in any garden soil.

NONEA. *Borogineæ.* NONEA ROSEA.—These are plants of no great beauty and may be raised in common garden soil.

NUTTALLIA. *Malvaceæ.* NUTTALLIA GRANDIFLORA.—A genus of pretty plants, when in blossom, resembling the poppy; they should be grown in a light rich soil of vegetable mould, the colour of the flowers is pink, purple, red and purple.

NYMPHÆA ESCULENTA.—This species has a tuberous root, which is eaten and held in esteem by the Natives.

NYMPHÆA. *Nymphaeace.* NYMPHÆA. ALBA.—Found in tanks, and grown as the rest of the species.

NYMPHÆA PUBESCENS. *Hind.* KOEE KUMMUL.—A variety of the last, bears a white flower.

NYMPHÆA RUBRA. *Hind.* KUMMUL.—Red flowering lotus. In tanks, flowers about the close of the rains—of a dark crimson colour.

NYMPHÆA STELLATA.—This plant is common in ponds and tanks. The flowers are blue.

OENOTHERA. *Onagraceæ.* OENOTHERA ACAULIS. Evening Primrose. The yellow and white flowering kinds are easily cultivated by seed, in any good garden soil, and will continue during the hot weather to blossom.

Ononis. *Leguminosæ.* Ononis Rotundifolia.—These are little shrubby plants, natives of Britain, and are of easy culture from seed.

Orobus. *Leguminosæ.* Orobus Fischeri. Bitter Vetch.—Readily cultivated from seed in any good soil, colours various.

Oxalis. *Oxalideæ.*—Wood sorrel.

Oxalis Rosea.—Tuberous rooted plants, from the Cape of Good Hope, and are easily cultivated at the commencement of the rains; the small tubers should be allowed to remain in the pots in which they have grown and be carefully removed into fresh earth after the rains have set in, and if well attended to, will readily spring up, and produce abundance of rose coloured flowers.

Oxylobium. *Leguminosæ.*—Oxylobium Cordifolium.—These are ornamental plants, easy of culture, in any common soil; the colours are yellow, orange and scarlet.

Oxyura. *Polygonaceæ.*—Mountain sorrel.

Oxyura. *Chrysanthemoides.*—Native of Britain, and North America, cultivated in any garden soil.

Pæonia. *Ranunculaceæ.*—Pæonia Arborea.—These beautiful flowering plants, the herbaceous species of which are so generally cultivated in England, and thrive best in the Conservatories, are not known in Western India.

Papaver. *Papaveraceæ.* Papaver Croceum.—This species, which is almost always variegated, is sown only as a border flower, for its large and full handsome appearance. The scent is anything but agreeable. The seed should be sown where the plants are to remain, and six inches the least space allowed between each plant. They do not bear transplanting. The common cultivated species, from the capsule of which opium is procured, is of various colours, and when sown in beds, has a very pleasing effect. The seed (kus kus) is usually used by natives in confectionery having the taste of sweet almonds. Is propagated by seed only.

Passiflora. *Passifloraceæ.*—Passion Flower. Passiflora Alata.—These ornamental climbers, are common in most parts of India, the species are numerous, being of easy culture. Some of them are fruit-bearing, as the P. edulis and P. laurifolia, the latter is known from its dark shining leaves. There are several wild varieties.

PASSION FLOWER.—Vide Passiflora.

PATERSONIA. *Irideæ*. PATERSONIA GLAUCA.—These plants are Natives of New Holland, the cultivation of which is by division of the fibrous roots similar to the Iris.

PELARGONIUM. *Geraniaceæ*.—Many kinds of this genus, thrive well in India and are easily raised from seed, the Horse-shoe and Oak leaf bear flowers abundantly, but it is generally remarked that plants grown from English seed do not blossom. Many of the species thrive well when put out in the garden, but are better for being grown in large pots, and if so placed, as only to receive the morning and evening sun, will blossom most abundantly.

PENTSTEMON. *Scrophularineæ*.—PENTSTEMON DIGITALIS.—These are herbaceous plants, and are cultivated as the Chelone, the flowers are of every variety of colour.

PETREA. *Verbenaceæ*.—This is a climbing plant with dark shining green leaves, and beautiful lilac or purple flowers hanging in racemes. It is a native of South America, and only requires to be regularly watered, and grown in a good garden soil, to cause it to extend itself over an immense space, its long slender whip-like shoots should be lopped down, to make it throw out branches, at the end of which the flowers appear in most elegant festoons towards the close of the cold season. It is easily propagated by layers.

PETUNIA. *Solanaceæ*.—This is an ornamental genus of plants, and easy of cultivation, the colours are white, purple, crimson and purple, or rose coloured; they grow readily from seed either in the rains, or cold weather, and form pretty border flowers.

PHACELIA. *Hydrophylleæ*.—Hardy plants, flourishing in any common soil; the flowers are curious, from the manner in which they slowly unroll themselves. Some are perennials, and others biennials; the flowers are chiefly pink and blue coloured—propagated from seed.

PHEASANTS EYE.—Vide Adonis.

PHLOMIS. *Labiatæ*. PHLOMIS RUSSELLIANA.—Jerusalem Sage.—These are perennial and shrubby plants, with coarse hairy leaves resembling the common sage; the flowers are purple, red, yellow, &c., growing readily from seed in any common soil.

PHLOX. *Polemoniaceæ*. PHLOX DRUMMONDII.—This is an elegant genus of plants, and from their lively colours have a pretty appearance when grown in patches, the colours are red, purple, lilac, white, &c., grow readily from seed in a light garden soil.

PHYSOLOBIUM. *Leguminosæ*.—These plants are not much known. They are natives of the Swan River, and take their name from Physa, a bladder, and lobos, a pod, alluding to the shape of the seed vessels.

PIMELEA. *Thymelaceæ*. PIMELEA SPECTABILIS.—These are a beautiful genus of shrubby plants, growing to the height of two or three feet, they require a rich soil, and if carefully watered, produce numerous heads of flowers, the colours are white, red, rose and yellow, readily cultivated from seed.

PLATYLOBIUM. *Leguminosæ*. PLATYLOBIUM TRIANGULARE.—These are free flowering shrubs, with pretty orange, yellow, or red coloured flowers, and are readily grown from seed in any tolerable garden soil.

PLATYSTEMON. *Ranunculaceæ*. PLATYSTEMON CALIFORNICUM.—These are annuals with cream coloured flowers, natives of California, and said to grow best in sandy loam.

PLUMBAGO. *Plumbaginaceæ*.—THE LEAD WORT. (WHITE) P. ZEYLANICA (RED) P. ROSEA (BLUE) P. CAPENSIS.—The White Plumbago is common; so are the other varieties. The red and blue blossom throughout the year; but the latter, which is the handsomest of the whole, and introduced from the Cape, is by far the most esteemed. Is propagated by layers.

PODALYRIA. *Leguminosæ*. PODALYRIA GENISTOIDES.—These are pretty shrubs with silky leaves, and should be grown in a light garden soil, their colours are mostly white, purple, blue or red, and should be raised from seed.

PODOLEPIS. *Compositæ*. PODOLEPIS GRACILIS.—The stems of these plants are covered with scales, the flowers are white, yellow and pink, these plants are adapted for borders, and may be raised from seed.

PODOTHECA. *Compositæ*. PODOTHECA CAPITATA.—A yellow flowering plant of no great beauty—readily cultivated from seed.

POINCIANA. *Cæsalpinieæ*. POINCIANA GILLIESII.—These plants

are Natives of India; one well known as the Goolmohur flower, grown from seed. P. Gilliesii is from Mexico.

POLYGALA. *Polygalaceæ*. POLYGALA SPECIOSA.—All the species of this genus are very handsome showy flowers, they are natives of the Cape, some parts of Europe and America; their colours are chiefly pink, scarlet, red or white, they are readily grown from seed, and should be raised in a light soil.

POLYGONUM PERSICARIA. *Polygonaceæ*.—This is a very extensive genus of plants; the dwarf persicaria, a garden plant, is of easy culture, also the red and white, the P. Hydropiper, a water plant, has beautiful pink flowers.

PORTULACA. *Portulaceæ*.—These are pretty annuals with succulent leaves, and very brilliantly coloured flowers, red, purple, yellow, white, &c., they are easily grown from seed, and if well watered and kept in the shade, will blossom throughout the hot season; the hybrids, between the white, and dark colours are remarkably pretty.

POTENTILLA. *Rosaceæ*. POTENTILLA ATROSANGUINEA.—These are herbaceous plants, and handsome when in flower, they grow in any garden soil, the colours are various, and easily raised from seed, or by dividing the roots, the shrubby species grow from two to three feet high.

PRIMULA. *Primulaceæ*. THE PRIMROSE.—This genus of plants includes the Auricula, Polyanthus, and the Primrose. They all form in Europe ornamental border flowers; but will not succeed in S. India.

PROTEA. *Proteaceæ*.—These plants are natives of the Cape, and would be found difficult to cultivate from their fleshy roots, the soil best suited for their growth is light loam mixed with sand, they require great attention as they suffer either from a want or excess of water.

QUAKING GRASS.—Vide Briza.

QUISQUALIS. *Combretaceæ*. Q. INDICA.—The Chinese Honey Suckle or Rangoon Creeper. Flowers scarlet outside, yellowish white within, hangs in large clusters, very useful in covering walls or trellis work, the scent at night is unpleasant to some persons, being sickly. It is a very common plant in the gardens of the Deccan and may be raised from seed or layers.

RAMONDIA. *Gesneraceæ.* RAMONDIA PYRENAICA.—This is an Alpine plant, growing in a common soil, not likely to thrive here.

RANUNCULUS. *Ranunculaceæ.* RANUNCULUS ASIATICUS.—This extensive genus of pretty yellow, white and scarlet flowers, some of which are grown in water, whilst the grumose species thrive in any common soil; propagated by dividing the roots.

RESEDA. *Resedaceæ.* RESEDA ODORATA. MIGNIONETTE.—There are many species of this genus, most of which are natives of the South of Europe and Egypt. This sweet-scented little plant may be cultivated throughout the year, only requiring moderate care in watering; and when the blossoms have passed their maturity, cut down the shoots, when fresh ones will spring up. If you require the seed, observe, as soon as the capsules are full, to pick off the branches and let them dry; otherwise if let remain on the plant, they drop out and are lost. It loses much of its fragrance, if grown in too rich a soil. Is propagated by seed, either in pots or beds; each plant should be about from four to five inches apart.

RHEXIA. *Melastomaceæ.* RHEXIA VIRGINICA.—This is a genus of shrubby plants, handsome when in flower, they require a good soil, and may be propagated by seed or dividing the roots, colours are purple, pink and white.

RHODANTHE. *Compositæ.*—This plant is a native of the Swan River, and is said to be as beautiful an annual as has been introduced into the English collections, it grows to a large size, and is covered with innumerable blossoms of rose and yellow colour; when grown from seed, the plants require to be continually shifted into larger pots, and the blossom buds at first pinched off: the shifting may be repeated five or six times until the plants have acquired a shrubby character, when the flowers will all expand, and continue in succession for some time.

ROSA. *Rosaceæ.*—This favorite plant, bearing such a variety of coloured flowers—from the deep red to the pale yellow and white, with all their intermediate shades—needs little description here, further than to point out the easiest mode of propagation, which is by layers at almost all seasons, or by cuttings at the commencement of the rains. The Persian varieties, red and white, require to have their roots opened, and the plants cut during the early part of the cold season, after which they must be watered well every

second or third day. The roots must then be covered up with manure, when they will throw out flowers, which are generally used for rose water. The Rose Edward, which blossoms great part of the year, requires pruning about a month after it ceases to blossom, and should be allowed to rest a short time without watering, when a fresh supply of water and manure round the roots will cause it to bear flowering shoots immediately. This rose, and the Egyptian, are amongst the few that give seed—hips being perfectly formed on both.

Rosa Rubiginosa. *Rosaceæ.*—Sweet-briar. Native name, gul nusreen. This species of rose which was once scarce in the Deccan is now to be met with in many gardens—it sometimes blossoms, if budded on the Persian rose stock.

The general mode of propagation is by layers, but a much quicker and easier method is to bud it on the stock of a rose.

Rudbeckia. *Compositæ.* Rudbeckia Fulgida.—This is a showy genus of plants, and will grow in any common soil, they attain a large size, and are therefore more adapted for a shrubbery; the colours chiefly yellow, and orange; propagated by seed or by dividing the roots.

Russelia. *Scrophularineæ.*—This plant with rush like branches bears a deep scarlet trumpet-shaped flower, hanging in long axillary peduncles down the stalk: it blossoms during the greater part of the year, and is highly ornamental, growing luxuriantly in a rich soil. It is propagated by layers or cuttings.

Salpiglossis. *Scrophularineæ.*—This genus of showy plants require much care in their cultivation, the situation in which they are grown should be sheltered and partially shaded, for if exposed to the sun they become withered and die suddenly, the colours are purple, red, white, and variegated. When grown in pots, it should be frequently shifted into pots, only a little larger than the previous ones, so, as to make the plants bushy, the soil should be loam mixed with sand.

Salvia. *Labiatæ.* Salvia Coccinea.—This is a very extensive genus consisting chiefly of extremely showy flowering plants of every variety of color, and therefore well worthy of cultivation; the plants may all be grown from seed in any good garden soil at the commencement, or after the rains.

Sanvitalia. *Compositæ.* Sanvitalia Procumbens.—A pretty compact plant, and from its nature adapted to cover a small patch or bed, in the flower garden, colour yellow, and raised from seed.

Saponaria. *Silenaceæ.* Saponaria Procumbens.—This is a pretty genus of rose coloured, pink or yellow flowers, and from its trailing habit, best suited for covering rock work, cultivated from seed.

Saxifraga. *Saxifrageæ.*—These well known plants are mostly natives of Britain with white, yellow, or pink flowers, the S. umbrosa, the London pride is a pretty flower, the species are easily cultivated from seed in any garden soil.

Scabiosa *Dipsaceæ.* Scabiosa Elegans.—These plants with the scent of honey are well adapted for ornamenting the flower garden, they are propagated by seed, and grow readily in any good soil, the seed may be sown in pots at the close of the rains, and the plants removed when a few inches high.

Schizanthus. *Scrophularineæ.* Schizanthus Grahami.—This is a genus of pretty showy annuals, colours of the flowers are crimson, white, and variegated, and should be grown, and treated as the Scabius.

Schizopetalon. *Cruciferæ.*—Schizopetalon Walkeri.—This is a singular plant with curiously cut petals, and a strong tapering root, and should be grown and potted like the Eschscholtzia.

Scilla. *Liliaceæ.*—This is an extensive genus of bulbous plants, and are readily increased like others of the Lily tribe, a light soil is most suitable.

Scutellaria. *Labiatæ.*—These plants are handsome when in flower, and are adapted for the front of borders, the colours are purple, yellow, red or blue, the flowers resembling the Antirhinum, and may be grown from seed in any good garden soil.

Scyphanthus. *Loasaceæ.*—These are pretty little yellow flowers, and require the same treatment as the Loasa.

Sedum. *Crassulaceæ.* Sedum Cæruleum.—A species of succulent plants, with various coloured flowers, all of which should be grown separately in pots, in a light sandy soil mixed with brick rubbish, they are propagated by seed, these plants are well adapted for rock work.

SENECIO JACOBÆA. *Compositæ.*—Purple rag-wort. This belongs to an extensive genus of plants, and is a native of the Cape of Good Hope, it is easily raised from seed like other species of grounsels in common garden soil.

SERRURIA. *Proteaceæ.*—This genus of plants require the same treatment as the Protea.

SILENE. *Silenaceæ.* SILENE COMPACTA. CATCH FLY.—These are elegant flowering plants, of easy culture from seed, the flowers are of various colours, and require only the same treatment as the other species of Lychnis.

SIPHOCAMPYLOS. *Lobeliaceæ.*—These are small pretty shrubs growing well in a light sandy soil, and are propagated by seed and cuttings.

SNAKES HEAD LILY.—Vide Amaryllis Frittilaria.

SOLLYA. *Pittosporaceæ.* SOLLYA HETEROPHYLLA.—These are ornamental little shrubs with bright blue bell flowers, should be grown in a loamy soil, and are propagated by seed or cuttings.

SPARAXIS. *Irideæ.*—This is a pretty species of Irideæ, and is cultivated by dividing the roots.

SPATTALLA. *Proteaceæ.*—This genus are all Cape plants, and require the same treatment as other Proteaceæ.

SPHÆNOGYNE. *Compositæ*—This is a genus of small shrubs bearing mostly all yellow flowers,—cuttings root freely in a loamy soil.

STACHYS. *Labiatæ.*—These are plants of no great beauty, and being of a weedy nature are hardly worth cultivating.

STAPELIA, *Asclepiadeæ.*—This is an extensive genus of plants with curiously marked flowers like a toads back, they are star-shaped, and grow from the roots; these plants being succulent, are apt to drop off if grown in too rich or moist a soil, they give seed and may be cultivated from it, but more readily from slips shaded partially, and watered sparingly.

STATICE. *Plumbagineæ.* SEA LAVENDER.—Many of these species bear pretty purple, white and blue flowers, and are much cultivated at home, the S. Arborea is a very handsome shrub, and requires a large space for its spreading roots, is propagated by seed, in good garden soil.

STENACTIS. *Compositæ.*—This is a showy purple flower, and well adapted for borders; it is a native of California and propagated by *cuttings* or dividing the roots.

SWAINSONIA. *Leguminosæ.* SWAINSONIA GALEGÆFOLIA.—This is a pretty species of shrub with purple, red and white flowers grown from seed in good garden soil.

SWEET BRIAR.—Vide Rosa Rubiginosa.

SWEET PEA.—Vide Lathyrus.

SWEET SULTAN.—Vide Centaurea.

SWEET WILLIAM.—Vide Dianthus.

STEVIA. *Compositæ.* STEVIA PURPUREA.—These are pretty, small flowering plants, natives of new Spain and Mexico, propagated by seed, cuttings and division of the roots in any good garden soil.

STIPA. *Gramineæ.*—A beautiful species of grass grown chiefly in gardens for the sake of the beautifully feathered heads.

STREPTOCARPUS. *Bignoniaceæ.*—This is a handsome plant from the Cape of Good Hope, produces abundance of pale, purple flowers, it requires a good garden soil, and is increased by seed.

SUN ROSE.—Vide Helianthemum.

SUTHERLANDIA. *Leguminosæ.* SUTHERLANDIA GRANDIFLORA.—This is a pretty shrub with scarlet flowers, native of the Cape, and is readily increased by seed in any good garden soil.

TACSONIA. *Passifloraceæ.* TACSONIA PINNATISTIPULA.—These are climbing plants nearly allied to the Passion Flowers, and require the same treatment. Colors rose or pink.

TAGETES. *Compositæ.* TAGETES LUCIDA.—African Marigold. This is common in all gardens, and readily grown from seed.

TELEKIA. *Compositæ.*—This plant bears a yellow flower, and grows in any common garden soil.

THISTLE.—Vide Argemone.

THORN APPLE.—Vide Datura.

TIGER LILY.—Vide Tigridia.

TRUMPET FLOWER.—Vide Bignonia.

THUNBERGIA. *Acanthaceæ.* THUNBERGIA ALATA.—These climbing plants bear flowers of various colours. The T. Grandiflora hangs in beautiful blue racemes, and is adapted for covering trellis work. The species are grown from seed, in any good soil.

TIGRIDIA. *Irideæ.* TIGRIDIA CONCHIFLORA.—Tiger Flower. These beautiful species are grown like other lilies, the flowers open in the morning, and are of a short duration; a second blossom appears on the same stem about the third day after the first has withered.

TOBACCO.—Vide Nicotiana.

TROPÆOLUM. *Tropæolaceæ.*—This flower is very common—the colours are yellow, light yellow, and deep orange; and as the plant is a creeper, it is well adapted for trellis work. The leaves are eaten with sallad, and the seed when green sometimes pickled. Is propagated by slips, or seed, in any good soil.

TWEEDIA. *Asclepiaceæ.* TWEEDIA CŒRULEA.—These plants bear blue flowers, and succeed well in a sandy peat soil, and are readily grown from seed.

VALERIAN.—Vide Centranthus.

VERATRUM. *Melanthaceæ.* VERATRUM NIGRUM.—This genus takes its name from the dark colour of its roots. The flowers are mostly white, dark purple, and green. It is cultivated in a rich garden soil by seed, or dividing the roots, which contain powerful medicinal properties.

VERBASCUM. *Scrophulariaceæ.* VERBASCUM FORMOSUM.—These plants producing abundance of yellow and orange coloured flowers, are well suited for a Shrubbery. They are propagated by seed, or division of the roots.

VERBENA. *Verbenaceæ.* VERBENA OFFICINALIS.—Common. It is well known for its strong aromatic lemon scent. It grows from cuttings or layers, and no doubt would also from seed, as it blossoms freely.

VERONICA. *Scrophulariaceæ.*—They are common pretty Annuals, with blue flowers—cultivated in any good garden soil by seed, or division of the roots.

VICTORIA REGIA. *Nymphæaceæ.*—"This beautiful water lily has

been successfully raised in the Botanical garden at Calcutta from seed sent by Dr. Wallich from England on the 9th of September 1851. It was received and sown in the garden on the 6th of November following, where it lay in a dormant state until the 23d of April 1853. On the 13th of May same year, the seedling had made a healthy growth and was transferred on that date to the mound prepared for it in the tank. The largest leaf when planted out was little more than three inches in diameter. The total number of leaves produced up to the 5th of September were forty-four, fifteen of which were on the plant in different stages of development, when the first flower had made its appearance on the surface of the water, and the largest leaf produced up to that time measured 4 feet 5½ inches in diameter. The first flower-bud appeared partly above the water on the morning of the 6th September and by sunset the same evening had partly expanded the flower which closed up the next morning, and finally opened again at sun-set the same evening."—*Journal of the Agri Horticultural Society, Cal. Vol.* 8, 1853.

VINCA. *Apocynaceæ.* VINCA ROSEA.—The Periwinkle. These are trailing plants, and well known in English gardens. They produce seed, but are more generally propagated by runners which take root easily ; they require a good deal of moisture.

VIOLA. *Violaceæ.* VIOLA ODORATA.—These sweet scented little plants have become quite acclimated in the Deccan, they are best grown in pots, and require to be moderately shaded, the morning sun being sufficient for them : the plants must be protected from the hot winds, and divided out into small bunches when transplanted. The white violet is not known in the Southern part of India, but in England the finest are generally found in calcareous soils ; In India the violet seldom blossoms if grown in garden beds.

VIOLA TRICOLOR. *Heartsease or Pansy.*—The flowers of this species of violet vary much in size, some only are odorous. The colours are, as its name indicates, mixed and numerous, being from deep purple and yellow, to blue and white, crimson, &c. They are not so common in India as the Viola Odorata, although easily raised from seed which is chiefly procured from Europe.

Propagation.—By seeds and cuttings. In Europe this flower has been brought to great perfection from the latter mode of continual offsets. The flowers are not generally scented, but some are found so on the Neilgherry Hills. The seed should be taken as soon

as the seed vessels appear round and full; they may be dried in the house and the seed preserved; if left on the plant the capsules dry and open of themselves, fresh plants springing up from the seed that drops out.

Soil.—A light loamy vegetable soil.

VISCARIA. *Silenaceæ.*—This Genus of plants, have all glutinous stems, and are propagated from seed, requiring the same culture as the Lychnis.

WALL FLOWER.—Vide Cheiranthus.

WATER LILY.—Vide Nymphæa.

WATER LILY.—Vide Nelumbium.

WAX FLOWER.—Vide Tabernaemontana.

WAX PLANT.—Vide Hoya carnosa.

WOOD SORREL.—Vide Oxalis.

ZINNIA. *Compositæ.* ZINNIA ELEGANS.—Alba, Crocea, and various others, may be all sown at the commencement of the rains, either separately or in beds. The flowers are pretty and ornamental, and require very little care: the seed as it falls, springs up immediately, and from its profusion, almost becomes a weed in the garden.

FOREST TREES, FRUITS, AND FLOWERING SHRUBS.

ABROMA AUGUSTA. *Byttneriaceæ.* NAT. B. OOLUT-KUMBUL.—A shrub with soft velvety branches, flowers in the rains, of a dark purple colour, capsule five-angled ; the fibres of the bark are strong, and white, well adapted for making cordage though not so strong as hemp.

ABRUS PRECATORIUS. *Leguminosæ.* NAT. B. SWETA. KOONCH. TAM. CONDUMUNNIE.—A common twining plant with a woody stem, bears small red berries, with a black spot on the top, or more rarely black, with a white eye; the seeds are used as weights by jewellers, under the name of vahl, or rutee; the root is employed as stick liquorice, being mucilaginous and sweet.

ACACIA ARABICA. *Mimoseæ.* NAT. H. BABULA. TAM. KAROOVELUM.—Common in the Deccan, thrives equally well in black or red soil, growing rapidly and requiring no water; the flowers are yellow and the tree on the whole ornamental, the seeds and pods in the hot season are of great value to the shepherd, as they are readily eaten by goats and sheep. It abounds in gum.

Another species, found also in the Deccan, called *Ramkanta* which grows tall and erect with a Cypress like appearance, differs in form and the colour of its legumes from the Arabica, it is extremely ornamental, but the natives have an objection to the tree from some superstitious motive, an ill omen being attached to it; the wood of both species is hard, and used for cart wheels, ploughs, &c.

ACACIA CATECHU. NAT. KHADIRA OR KHUERA. TAM. PODEELMAUN.—A small armed tree, flowers in the rains, colour white, in long axillary spikes, furnishes the Terra japonica.

ACACIA SPECIOSA.—A tree of rapid growth, flowers white, very fragrant, with long stamens, the wood is strong and serviceable.

ACACIA STIPULATA.—The unarmed acacia, flowers of a pink colour, very handsome.

ACHRAS SAPOTA. *Sapotaceæ.*—This tree has been introduced from Goa, it yields a fruit the size of a quince, the flesh of which of a yellow colour, has an agreeable smell, and pleasant taste. The fruit is generally brought to Bombay for sale in December, from Goa.

ADANSONIA DIGITATA. *Bombaceæ.* BAOBAB OR MONKEY BREAD-TREE.—A large tree said to be found in Senegal and Abyssinia. It is the largest known tree, with the trunk of an immense size close to the ground, (the diameter of which is sometimes as much as thirty feet) but fast tapering and of little height in proportion, seldom exceeding seventy-three feet, somewhat resembling a cone. Flowers, large and white, appear in May and June. On the sea coast the fishermen use the fruit as floats for their nets. The tree lives to a great age, whence it has been called "arbre de mille ans"; and Humboldt speaks of it as "the oldest organic monument of our planet." The roots are of an extraordinary length; a tree only twelve feet high has been known to have a tap root many feet long. The foliage is sometimes so abundant as to conceal the vast proportions of the trunk, and the branches spread out drooping at the extremities to such a degree as entirely to conceal it; the whole forms a nearly hemispherical mass of verdure from 140 to 150 feet in diameter, and sixty or seventy feet high. The pulp of the fruit is slightly acid and agreeable, and frequently eaten: while the juice expressed from it, mixed with sugar, constitutes a drink which is valued as a specific in putrid and pestilential fevers. The trunk of the tree is subject to a particular disease owing to the attack of a species of fungus which vegetates in the woody part, and which, without changing its colour or appearance, destroys life and renders the part so attacked as soft as the pith of trees in general. Such trunks are hollowed (by the Africans) into chambers, and within them are suspended the dead bodies

of those who are refused the honor of burial. There they become mummies, perfectly dry and well preserved, and are known by the name of Guiriots.

ADENANTHERA PAVONINA. *Mimoseæ.* NAT. RANJUNA. TAM. MANSEKI-KOTTA.—Redwood. An unarmed tree; flower small, and white; the seeds are of a bright scarlet colour, worn as beads, also used as weights; the wood yields a dye used by Brahmins.

ÆGLE MARMELOS. *Aurantiaceæ.*—NAT. BEL. T. MAREDOO.—The Bengal Quince. A thorny tree with ternate leaves, fruit smooth, resembling an orange with a yellow hard rind, the pulp is used by the natives in chronic diarrhœa; it has also an aperient quality and is said to be very nutritious, the rind, which is astringent, is used in dyeing yellow.

AGLAIA ODORATA. *Aurantiaceæ.*—A shrub with ternate and pinnate leaves, and very small yellow flowers in axillary racemes.

AGATHIS AUSTRALIS. *Coniferæ.*—The New Zealand pine. A most stately pine, lately introduced from the Cape into the Horticultural Society's Garden Bombay, by A. N. Shaw, Esq.

AGATHIS LORANTHIFOLIA.—Dammar pine of the Eastern isles.

AGATI GRANDIFLORA. *Leguminosæ.* NAT. BUCKA OR BOKPHOOL.—This is a tree of rapid growth, generally cultivated for its large red or white flowers and pods, the *legumes* are from twelve to eighteen inches long, and as well as the flowers, are much used for food by the natives: there are several species with a variety of variegated and red flowers.

AGAVE MEXICANA. ORDER *Bromeliaceæ.*—This plant resembles, the Aloe; the centre scape rise to the height of 18 or 20 feet, flowers in the rains, while the seed germinates in the capsules before they drop off. It grows in almost any soil, requires little care, and yields in Mexico, the celebrated liquor called "Pulqué," which is thus procured.

"When the Indian becomes aware that the plant is about

to flower, he cuts out the heart, covers it over with the side leaves, and all the juice which should have gone to the stem of the flower, runs into the empty bason thus formed, into which the Indian, thrice a day and during several months in succession inserts a kind of syphon and applying his mouth to the other end draws off the liquor into a gourd by suction, first it is sweet and scentless, but easily fermented. It is said to be the most wholesome drink in the world, and remarkably agreeable, when one has overcome the first shock of its rancid odour. A very strong brandy is distilled from Pulque, which has the advantage of producing intoxication in an infinitely shorter period."

AILANTHUS EXCELSA. *Rutaceæ*. NAT. ARALU. TAM. PERUMARUTTOO.—A large tree with pinnate leaves from two to four feet long; leaflets coarsely toothed; flowers in terminal panicles, appear in January and February. The wood is used for sword handles, &c.

AILANTHUS MALABARICA.—This is a handsome tree with long pinnate leaves, flowers small, white, in terminal racemes, appear in February and March.

ALLAMANDA CATHARTICA. *Apocynaceæ*.—A scandent milky shrub, with large yellow flowers, which blossom in succession throughout the year. A native of South America: common in gardens.

ALANGIUM DECAPETALUM. *Alangiaceæ*. NAT. ANKOOL.—A small tree with whitish flowers; the petals vary on the same tree from six or eight to ten. The fruit is astringent, but eaten by the Natives.

ALEURITES TRILOBA. *Euphorbiaceæ*. NAT. AKHROOT.—Belgaum Walnut. This tree has been introduced into India from the Society Islands; it grows to a large size, the leaves are frequently three or five lobed, from five to eight inches long and nearly as broad, and are generally covered with a mealy substance, giving the tree a peculiar appearance; the flowers are small, white, in terminal panicles. Fruit,

oundish, two celled, each containing a nut resembling in flavor the filbert; the natives say the fruit when fresh is unwholesome and requires to be kept for one year before it may be eaten, the kernels yield more than 50 per cent. of a fine clear oil.

Alexandrian Laurel.—Vide Calophyllum Inophyllum.

Aligator Pear.—Vide Laurus Persea.

Almond Persian.—Vide Amygdalus Communis.

Almond Indian.—Vide Terminalia Cattapa.

Aloe Common.—Vide Aloe Perfoliata.

Aloe Perfoliata. *Hind.* Koour. *Liliaceæ.*—Is so generally known as to need no description. It is chiefly planted to form hedge-rows, and makes an excellent fence. It flowers in the rains, and the stem grows to the height of ten or twelve feet. The leaves make a good common cordage, or rope, used for drawing mats, &c.

Althæa Rosea. *Malvaceæ.*—This plant grows wild all over the country, and is used for medicinal purposes as at home.

Amomum Zinziber. *Scitamineæ.*—Grows in all parts of India: it is generally cultivated in gardens, being sown about the commencement of the rains, and taken up in eight or nine months, though sometimes left in the ground for the following year. For mode of culture, see Vegetable list.

Amomum Nutar. *Scitamineæ.*—I believe this to be the only species found in the gardens of the Deccan. It never bears fruit, but is perhaps one of the most beautiful flowers we possess. It multiplies very fast by the roots, and in a short time takes up a large space, throwing out long branches with drooping panicles of flowers, appearing more like wax. Colours pink and white. It is a native of some of the Eastern Islands, and has never been known to give seed. The only flower I have ever seen approaching near

it in beauty, is one of the parasites blossoming in May at Mahabuleshwar.

AMPHILOBIUM MUTISII. *Bignoniaceæ.*—A pretty climber with purple flowers, well adapted for trellis work.

AMYGDALUS COMMUNIS. *Amygdaleæ. Hind.* BADAM.—This tree never bears fruit, and is only grown as an exotic; it might be used as a stock for the peach, plum, &c.

AMYGDALUS PERSICA. *Amygdaleæ.* NAT. SHUFT ALOO.—There are but three varieties of this fruit met with in the Deccan—a large round white sort, of a delicious flavor; the flat China; and a small thin-skinned description, more resembling an apricot in appearance, and much harder than the others. The peach is easily cultivated by seed or layers. A seedling will throw out blossom in the second year, and be ten or twelve feet in height: it requires to be carefully pruned, wintered, and watered. No branches should be allowed to grow on the stem closer than three feet from the ground; all spurious and misplaced shoots should be rubbed off before gaining strength to exhaust unnecessarily the juices of the tree; and all distorted leaves, the work of insects, of parasitic plants,—mildew, &c.—should be picked off and destroyed.

The kernels of the peach should be carefully removed from the shell, and in no ways injured if required for planting: they should be sown in small beds at the commencement of the rains, about eighteen inches apart, and as soon as they are fit for removal, a good sized ball of earth must be taken up with the roots, to prevent the root fibres from receiving injury. All the buds around the stem had better be rubbed off by the hand, as far as requisite, and a proper shape be given to the tree, by cutting out all the superfluous spurs and their branches. The time for opening the roots of the peach is after the close of the rains: remove the earth with care, so as not to injure the roots, for the space of three feet round the stem; pull off all the leaves, and cease to water the tree until the blossom buds appear; then cover up the roots with good loam mixed with old rotten manure; water freely every third or fourth day until the fruit begins to ripen,

when you must be guided by circumstances. It is necessary sometimes to thin the fruit, and also to put the peaches in bags, as they begin to ripen, otherwise the birds will destroy them.

Peaches first come in about February, and with care may be continued until the rains commence, after which the excess of moisture received by the leaves and roots causes the fruit to swell and burst.

AMYRIS HEPTAPHYLLA. *Amyridaceæ.* NAT. KABUN-PHUL.—A shrub with alternate pinnate leaves, and small yellow flowers; the leaves when bruised have the smell of Anise.

AMYRIS COMMIPHORA.—The wood and resinous juice of all these species have a strong balsamic smell.

ANACARDIUM OCCIDENTALE. *Terebinthaceæ.* NAT. HIJII-LEE. BADAM.—This tree grows to a large size in many parts of the Deccan, and is found in Native as well as European gardens. It is very ornamental when in leaf, bearing sweet-smelling flowers, succeeded by a pear-shaped fruit of a yellow and red colour, which is eaten by the poorer class. The nut hangs at the end of the fruit outside; and is of a kidney shape. Between a double shell, covering the kernel, is a very acrid juice, which, if applied to the skin, or inadvertently to the lips, immediately raises a blister. The juice is sometimes used for marking linen, as it is impossible to wash it out. The milky juice from the tree also stains linen a dark brown colour. The kernel, when roasted, is very sweet and pleasant, but is considered rather astringent. In the West Indies, the fruit or apple is bruised, and a juice expressed from it and fermented, which produces a sort of wine; and if distilled, a spirit is obtained from it, which makes excellent punch. The gum that exudes from this tree is valuable, from its resemblance to Gum Arabic.

ANONA SQUAMOSA. *Anonaceæ.* NAT. SEETA-PHUL.—Custard Apple. Very generally cultivated all over India, and grows wild in many parts of the Deccan. It has on some occasion

of famine proved the staff of life to the poorer classes. The tree when cultivated and pruned, during the hot season produces fruit afterwards of double the usual size.

Anona Cherimolia.—A succulent fruit of a dark purple colour containing a soft sweet mucilage, and is much esteemed by the Peruvians.

Anona Reticulata. Nat. Ram-phul. Bullocks Heart.—This tree grows to a large size. The fruit is so called from its fancied resemblance to the heart of the animal. The colour is a dark brownish red. When ripe, it is a soft, sweetish, pulpy fruit, but has not the fine flavor of the custard apple. It is ripe from November to June, but not much esteemed by Europeans.

Anona Muricata. Soursop.—This tree is a Native of the West Indies. It grows to about the same size as the Bullock's Heart. The fruit is of a greenish colour when ripe, and has a rough thorny appearance: the flavour is very peculiar, differing from the other species of the Anonaceæ: the scent resembles that of black currants; the seeds are similar to those of the custard-apple. The fruit ripens in March; and in the West Indies is considered very cooling in fevers. It bears only once a year.

Aoonla Plum.—Vide Phyllanthus Emblica.

Apple.—Vide Pyrus Mala.

Apricot.—Vide Prunus Armeniaca.

Arachis Hypogea. *Cæsalpineæ.* Nat. Vilaitee Moong.—This nut has the peculiar property of thrusting its legume into the earth to ripen the seed, and is easily cultivated by offsets, which are thrown out in May or June. It is generally sold ready roasted by the Natives in the bazaars. It requires a good soil and much water. A fine, clear, sweet oil is obtainable from it.

Areca [Catechu. *Hind.* Foofulee Sooparee. *Palmaceæ.* Betle Nut Palm.—This beautiful tree is commonly cultivated: it grows to the height of from fifteen to forty feet, and is

of India, and abounds on the Coromandel Coast; the flowers are purple, and it is readily grown from seed.

AVERHOA CARAMBOLA. *Oxalideæ.* TAM. TAMARTUN PULLUM.—The Kurmul, or Kumruk. A tree common in gardens—flowers in short racemes, variegated with white and purple; fruit acutely angled and acid, much used for tarts and pickles, there are two kinds, the acid and sweet.

AVERHOA BILIMBI. NAT. BELUMBOO. TAM. BILIMBIE. PULLUM.—This fruit is pleasant tasted, but rather too acid, it is commonly made into pickles or preserves.

AZALEA INDICA. AZALEA AURANTIACA.—This is a beautiful genus of plants, admired for its white, orange, purple, scarlet, and variegated flowers, which it produces in great abundance, grows freely from seed, and requiring a light soil. Each plant should be grown separately in pots.

BALANITES ÆGYPTIACA. *Olacineæ.* NAT. HINGENBET.—A small thorny tree with alternate bifoliate leaves, and greenish white flowers; fruit about the size of an egg, covered with a smooth dry cortex; flourishes in black soil.

BALSAMODENDRON GILEADENSE. *Bursereæ.*—Vide Dracocephalum.

BAMBUSA ARUNDINACEA. *Gramineæ. Hind.* BAS.—The Bamboo grows in all parts of the Deccan, both in the hills and jungles, and therefore needs little description. There are two varieties, male and female. A product, called Tabasheer, is found in the hollow joints of the latter, and sold at a high price among the natives. These trees when in clumps are very handsome, but make a great litter when the leaves begin to fall after the rains. Nothing, however, can be more beautiful than the foliage when, in fresh leaf. The young shoots, just as they strike out of the ground, are made into pickle, and also boiled and eaten by the poorer classes. The seed is sometimes boiled with meat and spice, and formed into a broth or soup. There is also a species in Bengal bearing a pear-shaped fruit—the Bambusa Melocanna.

Barleria Purpurea. *Acanthaceæ.* Barleria Cristata.—A shrubby spreading plant, with opposite, sub-rotund nearly sessile leaves; spines in axillary pairs longer than the leaves; flowers solitary, large, of a beautiful pink colour.

Barringtonia Acutangula. *Myrtaceæ.* Nat. Hijjul. Tam. Radami.—A large tree, flowers in pendulous racemes of a dark scarlet colour, fragrant; fruit oblong, four sided sharp angles.

Basella Alba. *Chenopodeæ.* Nat. Suffet-pool.—A twining succulent plant, with smooth fleshy leaves; grows very rapidly from seed, and is eaten as spinage.

Basella Rubra. Nat. Pootika. Malabar Nightshade.—A succulent plant of the same species, only with red leaves, and is used as the former; grows in any garden soil from seed, but requires sticks for it to climb upon.

Bassia Latifolia. *Sapotaceæ.* Nat. Moula. Tam. Ipei.—This tree is very common; deciduous in the cold season. An intoxicating spirit is distilled from the flowers, which have a very disagreeable scent; the seeds yield an oil which is used to adulterate ghee.

Bassia Longifolia. *Sapotaceæ.* Nat. Mooa. Tam. Eloopie.—This is a large tree like the former; the wood is used for the construction of carts, planks, &c., and a fatty oil is obtained from the seeds.

Bastard Cedar.—Vide Cedrela toona.

Batatas Paniculata. *Convolvulaceæ.*—Beautiful dark purple flowers.

Batatas Pentaphylla.—Stems twining, very hairy, flowers in the rains, cream coloured.

Bauhinia Acuminata. *Cæsalpinieæ.* Nat. Kanchun.—A shrub with white flowers.

Bauhinia Anguina. Nat. Nag-poot.—An extensive and rambling shrub, with flexuous compressed stems and small

Boswellia Thurifera. Nat. Dup-salaee.—A tree with leaves pinnate as the last; grows on the hills of the Deccan, and both furnish the gum Olibanum.

Brab Tree.—Vide Borassus Flabelliformus.

Bread Fruit Tree.—Vide Artocarpus Incisa.

Briedelia. *Euphorbiaceæ.* Briedelia Spinosa.—A tree with a pretty large trunk, branches armed with strong thorns, leaves alternate, bifarious; flowers small, of a greenish yellow, berry the size of a pea, the bark strongly astringent.

Broussonetia Papyrifera. *Urticaceæ.*—From the bark of this tree a kind of paper is made, the juice is also used as glue in gilding leather or paper, the bark furnishes a beautiful strong white fibre. The plant is a native of Japan, and the young shoots are used for basket work, &c.

Brugmansia Suaveolens. *Solanaceæ.*—This is a South American plant forming a bush from six to eight feet in height, and when in blossom has a very splendid appearance, from its numerous long white pendulous trumpet shaped flowers, one foot or more in length. It blossoms in succession three or more times during the year, and is easily cultivated from cuttings; it may be grown in any good garden soil, but if reared in pots, they must be of the largest size, and plenty of water is required, when the buds make their appearance during the cold season.

Bryonia Grandis. *Cucurbitaceæ.* Nat. Koondoorie. Tam. Covay.—Small sized variety of the gourd species.

Buchanania Latifolia. *Terebinthaceæ.* Nat. Pyala or Chaboonga. Tam. Moraeda.—This is a jungle tree, flowering after the rains. It bears fruit about the size of a small cherry, in long bunches, colour of a darkish purple: the kernels, or seeds, which are covered with a double shell, after being prepared by the natives, are sold in the bazaar four or five pounds for a rupee: they possess the flavor of almonds, and are used as such by the native confectioners. A very fine oil might be expressed from the seed. The method of pre-

paring them by the Bheels is this: the fruit when ripe in May is gathered, then soaked in water to soften the outer pulp, when it is washed and rubbed off by the hands: the little nut is then dried in the sun, and afterwards broken between a common chuckee or stone-wheel, such as is used for grinding wheat: the kernels are then sifted and winnowed.

BULLOCK'S HEART.—Vide Anona Reticulata.

BUTEA FRONDOSA. *Leguminosæ.* NAT. PULAS.—A large tree called the Bastard Teak, flowers in March, of a beautiful deep red, shaded with orange, downy, they are used to dye with: the wood is esteemed for its toughness, and a gum like kino and also lac is obtained from it.

BUTEA PARVIFLORA.—A scandent shrub, flowers small and white.

CADABA INDICA. *Capparideæ.*—The Indian Cadaba, a straggling shrub, flowers in terminal racemes, of a dingy white, nearly throughout the year, very common about Mussulman burial grounds.

CÆSALPINIA SAPPAN. *Cæsalpineæ.*—Vide Sappan-Wood.

CÆSALPINIA SEPIARIA. NAT. CHILLOOR.—A scandent strong armed shrub; flowers yellow, generally used to fence round fields.

CALAMUS DRACO. *Palmæ.*—Dragons Blood. This plant is a native of Sumatra, and is little known in the Peninsula of India. The plants when young are elegant, and resemble small palm trees, after which they become scandent and overrun any neighbouring trees.

CALAMUS ROTANG. NAT. BEN BENT.—This plant has been introduced from the Moluccas, and is the well known Rattan plant.

CALAMUS RUDENTUM. NAT. MOTIE BETE.—This is a larger species, and is found in some of the gardens of the Deccan.

CALONYCTION ROXBURGHII. *Convolvulaceæ.* NAT. CHANDNEE. NAT. MURICATUM.—Flowers bluish purple.

CALOPHYLLUM INOPHYLLUM. *Guttiferæ.* NAT. PINNAY.—The Alexandrian Laurel. A very handsome tree with dark green shining leaves, flowers white and fragrant, fruit round, smooth, size of a large marble, the kernels yield a fixed oil, known as "pinnay oil" used as an application in Rheumatic affections, also for burning in lamps.

CALYPTRANTHES CARYOPHYLLIFOLIA. *Myrtaceæ.* NAT. JAMOON. TAM. NAWEL.—These are large growing timber trees, the wood is light, and chiefly used for making grain measures, the bark is astringent, and is used in a decoction by the natives for dysentery.

CALYPTRANTHES JAMBOLANA. NAT. JAMOON. TAM. TURKOLUM.—This is a large and handsome tree, flowers in February and March, and thrives in any good soil. The fruit of the best sort is as large as a common blue plum, which it resembles in appearance; it has a rough astringent flavor, and should be soaked in salt and water before it is eaten. The fresh stone if planted grows immediately.

CAPE OR BRAZIL GOOSEBERRY.—Vide Physalis Peruviana.

CAPRIFOLIUM SEMPERVIRENS. *Caprifoliaceæ.*—The Lonicera or Trumpet honey-suckle named after Adam Loniceir, a German botanist. Common all over England. Grows in hedges, thickets, and clefts of rocks; flower yellow, or white with deep red streaks, and remarkable for its odour. Lonicera Sempervirens, a native of North America, with flowers, scarlet outside and yellowish white within—very useful in covering walls; the scent at night is unpleasant to some persons, being sickly. Lonicera Chinensis is common in some gardens of the Deccan. Is propagated by slips and layers in any good garden soil.

CARDAMOM.—Vide Amomum Nubar.

CARDIOSPERMUM HALICACABUM. *Sapindaceæ.* NAT. SHIBJOOL

TAM. MOODA-COTTAN.—The heart pea or balloon vine; annual climbing plant, with an inflated membranous capsule—hence its name.

CAREYA ARBOREA. *Myrtaceæ.* TAM. KUMBEE.—A large tree, leaves deciduous in the cold season; bears an oblong fruit, size of an egg; has a very peculiar scent, no use is made of it.

CARISSA CARANDAS. *Apocynaceæ.* NAT. KURUNDA. T. WAKA.—The Wild Black Carandas. A large thorny bush. Grows wild in most parts of the Deccan, bearing a dark blue coloured berry when ripe, and sold in the bazaar. There is also a cultivated sort in gardens. The fruit of the latter when ripe is sometimes eaten by Europeans, but in the green state is made into tarts, jellies, and pickles: the jelly is considered inferior to none made of other Indian fruits. The wild sort is gathered and sold by the natives for the same purpose.

CARTHAMUS TINCTORIUS. *Compositæ.* NAT. KOOSUM. TAM. SENDOORKUM.—This plant known as safflower or bastard saffron, yields a fine yellow dye, and from the seed a clear oil is obtained, generally cultivated in fields at the latter end of the monsoon.

CARYOPHYLLUS AROMATICUS. *Myrtaceæ.*—This tree is a native of the Molucca Islands and chiefly cultivated at Amboyna, it is extremely handsome, and of luxuriant foliage, the whole tree and leaves are strongly Aromatic. The Clove tree is propagated by seed or layers, the plant thrives best in a strong compact soil of a clayey nature, and arrives at maturity eight or nine years after sowing. The seeds should be sown about six inches apart, in beds with plantain leaves or mats suspended two or three feet from the ground to shelter the young plants from the sun, for if not protected from it when young, they droop and die. When the plants are five or six months old, they should be transplanted at a space of fifteen or sixteen feet asunder, and will bear about the sixth year.

CARYOTA URENS. *Palmæ.* NAT. BHERLEE-MAHAR. TAM. TEROO-

feet or more, the branches round, and leaves having a ferruginous down upon them when young. The flower is of a pale yellow, and the fruit ripens in October, about the size of a large crab apple: the pulp is of a yellowish colour and firm inside, the outer rind being of a dark brown. It requires no particular soil. There are several trees in the Residency garden at Hyderabad.

CICCA DISTICHA. *Euphorbiaceæ.* NAT. URFALAYOORIE. TAM. ARNELIE PULLUM.—Country Gooseberry. A small tree, leaves pinnate, from one to two feet long, scattered about the ends of the branches. Flowers small, of a reddish colour. Fruit round, size of a gooseberry: it has an acid flavour.

CINNAMOM.—Vide Laurus Cinnamomum.

CISSUS QUADRANGULARIS. *Ampelideæ.* NAT. HARJORA. TAM. PERUNDIECODIE.—Stems four angled, winged and jointed; it has all the properties of a parasite; the stems are succulent, and beaten up into a paste, are given by the natives for asthma.

CITRUS AURANTIUM. *Aurantiaceæ.* NAT. NERUNGA.—This tree is now extensively cultivated all over the Deccan. The finest sorts are the Cintra, Cowlah, and a small sweet orange which grows on a tree more like a creeper. The principal method of culture is by budding, the stocks generally being either seedlings or cuttings from the sweet lime. The best Cintra with a thin close rind, is produced upon the seedling stock and it is said that the fruit grown upon the sweet lime stock is generally loose and soft: this is very perceptible with some of the oranges. The best time for budding is in the cold season.

CITRUS DECUMAÑA. SHADDOCK OR PUMPLEMOSE.—This is the largest of the Orange tribe, and is universally cultivated in gardens: the varieties are red and white—the former preferred by some persons. The tree grows to a large size in a rich soil, and requires much pruning: the best time for doing this is when the crop of fruit is off. Fruit as fine as any seen has been produced at Ellichpoor from th

seed of a pumplemose brought from Bombay. The tree, when planted, should have a space of twelve feet all round it: the blossom is used for flavoring sweetmeats.

CITRUS LIMONUM. LEMON OR LIME.—There are so many varieties that they can hardly be described separately, being unnecessary. The large and small yield abundance of acid juice, and the tree is easily cultivated by layers, which soon throw out root fibres. The lime, which is of the smaller description, does not bear fruit so quickly as the larger sort, but if carefully prumed, and watered, will continue fruiting all the year round, and be very productive. *Sweet Lime, Meeta Neemboo.*—This is a sweet variety, and grows to the size of a large orange. It is easily propagated by seed. The juice of the fruit is very grateful to persons with fever, although rather tasteless. It will grow also from cuttings. The young shoots make a very good stock for orange grafts.

CITRUS MEDICA.—Citron. This fruit grows to a large size, the outer rind very rough and covered with excrescences, and when ripe of a deep yellow colour and fragrant; used to form a preserve, and the juice is made into lemonade. Is propagated by cuttings, layers, or seed.

CITRUS MONOPHYLLA.—Wild along the Ghauts.

CITRUS TRIFOLIA.—China, about the size of a marble.

CLEARING NUT.—Vide Strychnos Potatorum.

CLITORIA TERNATA. *Leguminosæ.*—There are several varieties. The most common are the blue and white. They blossom all the year round, and being shrubby twining plants, are well suited for covering trellis work. They are of easy growth, and the blue flowers are used sometimes for colouring boiled rice. Are propagated by seed, and in any soil.

CLOVE TREE.—Vide Caryophyllus Aromaticus.

CLOVE TREE. WILD.—Vide Caryophyllus Aromaticus.

COCOA NUT.—Vide Cocosifera.

shape, yellow and red, which when ripe opens and displays two or three black seeds enveloped partially with a fatty-looking substance. It is this from which the Chinese extract the tallow and make into candles.

CROTON TIGLIUM. NAT. JUMALGOTA.—A small tree, leaves alternate ovate cordate, from three to five inches long and two or three broad; yields the croton oil.

CROTON VARIEGATUM. *Euphorbiaceæ.*—An ornamental shrub commonly called the laurel, the leaves are variegated; there is also a willow leaf variety equally ornamental and handsome; the plants thrive best in large pots or tubs, and are easily propagated by cuttings. The willow leaf variety thrives best in a situation shaded from the noon day sun.

CUCUMIS MELO.—Vide Melon.

CUCUMIS SATIVUS. *Cucurbitaceæ.*—Vide Cucumber.

CUPRESSUS GLAUCA. *Coniferæ.* NAT. SURUS.—This is a tall, elegant, and graceful tree, well adapted for border walks in a garden, being always green, and a favorite with the Natives. It grows easily, and is generally planted alternately with Areca. Slips, if taken off before the commencement of the rains, and planted in beds shaded from the sun, take root; each slip should be six inches apart, and if common care is used, one-fourth of the plants will strike and grow. After that they may be put out in nursery beds, at the distance of one foot from each other, until required for transplanting, to where they are to remain.

CURCUMA ANGUSTIFOLIA. *Scitamineæ.*—Arrow Root. This root grows wild in all the hilly parts of the Deccan, and is used by the natives for food. The West Indian Arrowroot produces the most farinaceous matter. The tubers should be planted in a good, rich soil, about one foot apart, just before the rainy season; and taken up as soon as the leaves are dry. Rats, porcupines, and wild hogs, are very destructive to it, both when first planted, and also when ripe. Such tubers as are required for seed should be kept in a dry place in sand.

CUSCUTA REFLEXA *Convolvulaceæ.* NAT. HULDI-ALGUSI-LUTA. Species.—A parasite with filiform twining succulent stems, leafless, smooth, yellow; flowers white.

CUSTARD APPLE.—Vide Anona Squamosa.

CYCAS CIRCINALIS. *Cycadeæ.*—A very handsome tree, in appearance resembling the Palm tribe, but related to the Coniferæ: common from Tellicherry to the foot of the Ghauts.

CYMBIDIUM ALOIFOLIUM. *Orchidaceæ.*—This is a beautiful plant, when in flower, of a purple and yellow colour, and blossoms in April, native of India.

DALBERGIA SISSOO. *Leguminosæ.* NAT. SHEESHUM.—This is a most useful tree, growing in the jungles; the wood is used principally, from its strength and natural bend, for native hackeries: when it can be procured long and straight, it makes good shafts for buggies.

DALBERGIA ARBOREA. NAT. KURUNJEE. TAM. POONGA-MARUM.—A large tree with light green foliage, deciduous at the end of the cold season, the wood is light and firm and serves for common purposes, the seeds yield an useful oil.

DALBERGIA LATIFOLIA. NAT. SWETA-SHALA.—This is a large tree with a thick stem, the centre and large branches of which furnish to the manufacturer, the timber generally called blackwood, it is close grained and admits of a fine polish and is therefore particularly adapted for furniture.

DATE.—Vide Phœnix Dactylifera.

DELIMA SARMENTOSA. *Dilleniaceæ.*—A shrub with small white flowers in panicles.

DENDROBIUM PIERARDI. *Orchidaceæ.*—A parasite; caulescent, stems leafless, from six to twelve inches long, round jointed; flowers, several towards the top of the stem, of a light rose colour.

DENDROBIUM ALBUM. *Orchidaceæ.*—A parasitic flower in white racemes.

DEUTZIA SCABRA. *Alangiæ.*

Desmodium Latifolium. *Leguminoseæ.*—A shrubby plant, bearing handsome purple flowers.

Desmodium Recurvatum.—Jungly ganga. Flowers in the rains, color purple and white.

Desmodium Gyrans.—Flowers pale yellow tinged with blue, the lateral leaflets have the power of singular motions.

Dillenia Speciosa. *Dilleniaceæ.* Nat. Moota Kurmul.—A large tree; flowers white and yellow, nine inches in diameter; fruit size of a cocoanut. The thick fleshy leaflets of the calyx have an agreeable acid taste, and are eaten by the natives.

Diospyros Glutinosa. *Ebenaceæ.* Nat. Gaub. Tam. Panichekai.—A small tree, bearing a rusty coloured fruit abounding in a glutinous astringent juice, obnoxious to insects and is used by book binders, and also for soaking fishing nets in.

Diospyros Ebenum.—The Ebony Tree. Yielding a heavy black wood, grows abundantly in Ceylon and many parts of the Deccan.

Diospyros Sapota.—Vide Achras Sapota.

Dombeya Palmata. *Byttneriaceæ.*—A shrub; leaves palmate, resembling the common castor oil plant; flowers, in large terminal corymbs, rose coloured, appear in September and October.

Dombeya Angulata.—A shrub; leaves cordate, acuminate, and serrate; old ones three or five-angled; flowers in corymbs, of a pretty rose colour.

Dombeya Tomentosa.—A small tree with rose-coloured flowers, but smaller than the above two species.

Duranta Ellisia. *Verbenaceæ.*—This is a beautiful large shrub with light blue pendulous flowers, it blossoms almost throughout the year, readily grown from cuttings, the flowers are scentless.

Duranta Plumieri.—This is a large shrub like the former, with handsome drooping blue flowers having the scent of almonds, the clusters of seed berries which are numerous; when ripe have a very pretty appearance from their dark orange colour, they do not appear to germinate readily.

Durio Zibethinus. *Bombaceæ.*—This is a large tree, the Durian of the Malays, and is found mostly in the islands of the Indian Archipelago; the fruit has a very strong fœtid scent, and in consequence is not at first relished by Europeans; the seed of this fruit, like that of the Jack is the part eaten. The tree has lately been introduced into the Company's gardens on the Madras side.

Earth Nut.—Vide Arachis Hypogea.

Echites Acuminata. *Apocynaceæ.*—A climbing shrub with white flowers and habit as the last.

Echites Paniculata. *Apocynaceæ.*—A climbing shrub with large yellow showy flowers.

Elaeocarpus Oblongus. *Elaeocarpeæ.* Nat. Kassow.—This is a handsome tree, flowers in May, petals beautifully fringed, the foliage is frequently tinged with red giving an autumnal appearance to the tree.

Elæocarpus Ganitrus. Nat. Roodrakya.—This tree is a native of Java, the seeds are about the size of common marbles, and are worn as necklaces by Brahmins and Faqueers, they are commonly called *Utrasum* beads.

Elate Sylvestris. *Palmaceæ.* Nat. Kajoobee.—Wild date. Common throughout the Deccan.

Eleagnus Dulcis. *Elaeagnaceæ.* Nat. Shooshuna.—This tree or shrub is usually covered with leprous scales; leaves alternate or opposite, entire, without stipules. Flowers axillary—often fragrant. The fruit is about the size of a small olive, oblong. It is eaten by the Persians.

Eleagnus Conferta. Nat. Amgoolee.—A scandent shrub,

with silver coloured leaves beneath. The fruit is red when ripe, and eaten by the natives.

EMBELIA PETRANDRA. *Myrsinaceæ.* NAT. AMBUT.—A scandent shrub with alternate polished leaves; flowers in the cold season; fruit red, size of a currant.

EMBELIA RIBES.—Another of the species; a scandent shrub like the former, only with rough tuberous knobs on the stem; both are confined to the higher ranges of mountains.

ENTADA PURSAETHA. *Mimoseæ.* NAT. GRADUL.—An immense climbing shrub forming elegant festoons, legumes from one to three feet long, four or five inches broad, formed of a series of joints, each containing one seed: they are roasted and eaten.

ERIOBOTRYA JAPONICA. *Pomaceæ.*—The Loquat. This tree is now introduced all over the Deccan, and bears fruit twice in the year. It is highly esteemed both for deserts and preserves. It is a native of Japan, but grows in great perfection in New South Wales. The finest fruit is produced at the second crop, at the end of the cold season, and requires protection day and night; from birds in the former, and flying foxes in the latter. The fruit is of a yellow color, with thin skin, a sweet acid pulp, one or two seeds in the centre—sometimes more. The seeds grow easily. Proper attention does not seem to have been given to this fruit, as it appears to be capable of great improvement.

ERINOCARPUS NIMMONII. *Tiliaceæ.*—Jungle Bendy. A middle sized tree; flowers yellow in terminal panicles, appear in September and October. Fruit triangular, covered with bristles; angles somewhat winged, as a pleasing scent.

ERIODENDRON ANFRACTUOSUM. *Bombaceæ.*—This is a large tree growing in many parts of the Deccan, flowers drooping dingy white, blossoms in the cold season, the capsules when ripe contain a fine silky cotton like substance.

ERYTHRINA INDICA. *Leguminosæ.* NAT. PANGRA.—India coral tree; trunk and branches armed with prickles. Flower

in March and April, in terminal horizontal racemes, of a bright scarlet colour. This tree is used as a prop for vines; grows well by cuttings of any size. There is also a white blossoming Erythrina.

Erythrina Sublobata. T. Badadoomoo.—A tree, frequently of great size, branches spreading and numerous, trunk without prickles, the wood commonly used for making light boxes, scabbards, &c., and is generally called moochee-wood.

Erythrina Suberosa.—This tree is less common than the Indica, the trunk covered with deeply cracked corky bark, deciduous in the cold season, flowers in February and March.

Eugenia Acris. *Myrtaceæ.* Nat. Sung.—A small tree; grows in Bombay, the leaves have a pleasant smell when bruised.

Eugenia Jambosa. Nat. Goolab Jamb.—This tree bears a light whitish yellow fruit, pear shaped, with smooth skin, having a rose flavor: it is commonly cultivated in gardens on the coast. Hyderabad is the only part of the Deccan where it is known to flourish; many attempts have been made without success to rear it elsewhere. It is easily propagated by seed, and grows luxuriantly in a good garden soil. The red coloured species having the same flavor, is called the Jambo Malacca.

Eugenia Malaccensis.—Cultivated as the former.

Euphorbia Neriifolia. *Euphorbiaceæ.* Nat. Shij. Tam. Ela-kullie.—Grows all over the rocky parts of the Deccan. It has a whitish dead appearance except during the rains, and forms a capital fence round fields, &c.

Euphorbia Antiquorum. Nat. Sayord.—A leafless curious looking shrub, with spreading triangular branches from a four angled stem, armed with double spines: common.

Euphorbia Ligularia. Nat. Munsa-Shij.—With twisted five angled stems: common.

Euphorbia Tirucalli. Nat. Lunka-Shij. Tam. Kalli.—This plant is much used for making hedges, and from its continual green appearance is well adapted for the purpose. It grows best either upon a bank, or wall of large stones laid loosely for the purpose, having a good cover of earth upon it. Any cuttings will grow, and the plant if by itself will attain the height of twenty feet or more. The wood makes the best charcoal for gunpowder. A parasite of a yellow thread-like appearance, and leafless, (the Cassytha Filiformis) is very destructive to it, and will totally destroy a tree or a whole hedge in a short time, if not removed.

Euphorbia Tithymaloides.—The Slipper Plant. This is a thick deep-green leafed plant: it grows about three feet high, but if kept trimmed may be used for a border to a flower parterre, for which purpose it is admirably adapted. It suffers nothing by cutting, and if occasionally watered is always green. It grows well from slips; bears a small pink flower, and can be kept at any height. It is sometimes called buckthorn.

Exile Tree.—Vide Thevetia Neriifolia.

Falsa.—Vide Grewia Asiatica.

Feronia Elephantum. *Aurantiaceæ.*—Elephant Apple. This is a large handsome tree, with pinnate leaves; bears a grey coloured edible fruit, the size of an orange, which contains a sweetish pulp, eaten with sugar, and sometimes made into chatnees. The scent is very unpleasant when dry. The cortex of the fruit is used by firework-makers. An excellent pure gum is procured from the tree.

Ficus Carica. *Urticaceæ.* Nat. Unjeer. Tam. Simie Attie.—This tree bears fruit almost the whole year round. There are two varieties, the white and the blue, cultivated in all the native gardens, the young trees producing the finest fruit. The Italians, as the fruit begins to ripen, prick each with a pin, putting a drop of sweet oil on the spot;—it is said that this causes an increase in the size of the fruit.

The trees may be grown by layers and suckers at the commencement of the rains, and during the cold season. Cuttings strike easily in the course of six weeks. The finest fruit that I have seen grown has been on young trees of two years old, near which dead animal matter had been buried. The trees should be pruned annually, and the best way is to cut down the old branches that have borne fruit, leaving one or two buds that promise to throw out healthy shoots. The fruit when ripening must be protected from birds, either by nets or bags.

FICUS INDICA. NAT. BUR. TAM. ALAVEREI.—Banian, or Indian Fig-tree. Common all over India, growing to an immense size, from the branches of which stems descend and on reaching the earth take root: a glutinous juice is extracted by incision, from which bird-lime is prepared.

FICUS RACEMOSA. NAT. GULLAR KE CHAWL. TAM. ATTIE.—A large tree common throughout the country, the milky juice of this tree is considered a valuable external application in ring-worm.

FICUS RELIGIOSA. NAT. PIPUL. TAM. ARASUM.—This tree is equally common with the last, and is generally planted about Hindoo temples. The roots are most destructive to buildings, for if once they establish themselves amongst the crevices, there is no getting rid of them.

FICUS GLOMERATA. NAT. OOMBUR.—A large tree with fruit like the common fig, grows in clusters along the branches, flavour insipid, but eaten by the poorer classes. This tree thrives best near a watercourse, or on the banks of rivers.

FICUS ELASTICA.—Indian rubber tree. Common in gardens, with handsome large glossy leaves, from the large branches stems descend as in many of the Indian species of Ficus.

FIR TREE.—Vide Casuarina Muricata.

FLACOURTIA SAPIDA. *Flacourtiaceæ.* THE PANEOLA, PLUM. NAT. BINCHA. T. PUDDA-KANAEW.—This fruit tree is generally

cultivated about Calcutta, and grows to the size of a common plum: it resembles a gooseberry in appearance, the skin thin and shining and of a purple appearance. The tree is not common on this side of India, and only one or two are to be found in Bombay. The fruit here is not so large as in Calcutta, where it is common during the rains; it contains from ten to twelve seeds, and is both palatable and wholesome, and well worthy of more general cultivation. The tree grows to a large size.

FRAGARIA. *Rosaceæ.* THE STRAWBERRY.—This plant multiplies itself from runners and suckers; the old plant, after it has ceased bearing, throwing them out. As soon as the rains have set in, these runners may be removed into a nursery bed, for their being more easily looked after, and should have the space of nine or ten inches allowed between them: they will throw out other runners, the whole of which may be separated and transplanted at the proper season.

They thrive best in a light soil with good old stable and vegetable manure at first, and as soon as they show a disposition to flower, may have old goats' or sheep's manure added around each plant, a couple of double handsful being sufficient.

In no part of the Deccan, should the plants be put out for fruiting before the close of the rains, the latter part of September being quite early enough. Suckers which I planted for experiment at the commencement of August, grew to a good size, and did nothing for ten or twelve weeks but throw out suckers, which were continually removed, and after all fruited badly: the finest and most prolific crop were got from suckers put out in the beginning of October. Some strawberries were gathered in November from the plants put out in August, but they were so few as in no way to induce me to try the experiment again. Varieties can only be procured from seed; and to procure the seed, select the finest ripe fruit, rub it on a sheet of paper, and dry it. When the rains commence, soak the seed in water, reject all that float, the remainder sow in baskets in a light loam, when they will be fit to remove in about six

weeks, and should be put in other baskets four or five inches apart, and taken care of until ready to be transplanted into beds, where they are to remain. As these plants throw out suckers very fast, they must be constantly looked after, and removed unless you have a scarcity of plants. They will commence bearing in six months from the time of sewing the seed.

You may as soon as the rains have ceased, put your suckers that have rooted into square beds, each not less than one foot apart, five in a row: this will give you twenty-five in each bed—as many as can be easily looked after and gathered without trampling on the bed and thereby injuring the plants. When the earth is of a clayey consistence, I have seen the strawberry cultivated on ridges. Some think this is a good plan, but I prefer the beds: however, it can be easily tried. It is sometimes necessary, in consequence of flooding the beds, to put tiles under the fruit to keep it clean, but it also attracts the notice of the birds: if straw or grass be used, then the chances are that white ants destroy your plants. This it is that makes some persons prefer the ridge system of growing, as they say the fruit is cleaner in consequence: all I know is, that fine fruit may be grown either way; and if on ridges, the same distance must be allowed between the plants as in beds—and even in the latter the plants may be put on raised cones of earth. The common vegetable manure is all that is required at first until near flowering, when a handful or two of goats' or sheep's dung should be put round the plant, opening the earth and scraping it together. Water during the evening and very early in the morning.

Garcinia Purpurea. *Guttiferæ.* Wild Mangosteen. Nat. Kokum-Brindao.—A very elegant tree, of a conical form, branches drooping, leaves dark green; fruit round and smooth, size of a crab apple, when ripe of a purple colour throughout the inside; and of an agreeable flavour, it is much used at Goa for jellies and syrup, the tree grows to the height of thirty feet and is found in the Concan, and along the Malabar Coast.

Garcinia Mangostana.—The Mangosteen. This tree has been introduced from Singapore into Bombay, but the fruit

has never been brought to any perfection: probably if grafted on the Brindoa, which is common in the Concan, (and several trees are found in Bombay,) it might be much improved. I have been informed by a friend, that the Mangosteen ripens (and is equal to the Penang fruit) in the Company's spice gardens on the hills near Courtallum.

GARCINIA GAMBOGIA.—This tree grows to a large size, the fruit furrowed, acid, and pleasant, size of a small orange, is common throughout the Malabar Coast.

GARRUGA PINNATA. *Bursereæ.* NAT. KOORUK.—A tree, leaves pinnate, deciduous; flowers of a yellowish white, in panicles covered with a mealy kind of white substance; fruit size of a small plum, used for pickling.

GINGER.—Vide Amomum Zinziber.

GMELINA ARBOREA. *Verbenaceæ.* NAT. SEWUN.—A large tree; leaves petioled, cordate and pointed; flowers in April and May, large, yellow, tinged with brown. The wood of the tree is used for making the cylinders of drums, &c.

GMELINA ASIATICA. S. BIDDARI. TAM. NEELACOMUL.—A shrub; with small scolloped leaves and large yellow flowers armed with thorns, and forms an excellent hedge.

GMELINA PARVIFLORA. TAM. GOOMADI.—A shrub like the former, having dark orange coloured flowers.

GOSSYPIUM RELIGIOSUM. *Malvaceæ.*—This shrub produces a brownish coloured cotton, commonly called Nankeen cotton, it is more generally cultivated in gardens as an exotic, on account of the colour of its wood.

GOSSYPIUM NIGRUM.—This is an ornamental tall growing shrub generally cultivated in gardens on account of its dark red flowers;—from the staple of the wool being short although fine, it is not of much value.

GOSSYPIUM ALBUM. NAT. KAPAS OR ROOI.—The common cotton plant. This plant is generally cultivated at the commence-

ment of the rains in the black soil throughout the Deccan: the plant attains the height of from eighteen inches to four and a half feet, according to the soil and culture.

GRAPES.—Vide Vitis Vinifera.

GREWIA ASIATICA *Tiliaceæ*. NAT. PHULSI.—This shrub is generally cultivated in most fruit gardens; it bears a dark purple berry, when ripe, containing one or two small stones. The fruit is generally made into sherbet by pouring boiling water on it, and when cool, adding sugar to the taste. The plants are generally cut down almost to the ground in November, and even the leaves are burnt round the stalks, after which the roots are opened and manured, and watered occasionally, when new shoots spring out, and the fruit is borne near the axilla of each leaf; when of a dark purple, they are ripe and fit for use, grown readily from the seed.

GREWIA HIRSUTA. T. JAVELLIKI.—A shrubby plant; fruit hairy, common in the jungles.

GUAVA.—Vide Psidium Pyriferum.

GUAZUMA TOMENTOSA. *Byttneriaceæ*.—Rather a common tree, with small yellow axillary and terminal flowers, capsule woody, tubercled, about the size of a small plum.

GUETTARDA SPECIOSA. *Rubiaceæ*.—NAT. PANEER-KA-POOL.—A small tree; with large white fragrant flowers, in blossom throughout the year: the tree is sacred both to Siva and Vishnoo.

HERITIERA LITTORALIS. *Sterculiaceæ*. NAT. SOONDREE.—A small tree, with alternate entire leaves, and flowers in axillary panicles.

HIBISCUS MUTABILIS. *Malvaceæ*.—The changeable Rose. A large shrub bearing white flowers in the morning, and changing to red in the course of the day: easily propagated by cuttings.

HIBISCUS ROSA SINENSIS.—The Shoe flower. A large shrub

resemblance to the substance from which it is named. The seed is sometimes eaten by children, but is of a deleterious nature, and an emetic should be immediately administered. I have known several instances of this occurring. The inspissated juice forms a substance like caoutchouc.

Juniperus Communis. *Coniferæ.*—A handsome shrub with bark of a dark brown color which peels off in little flakes, cultivated in the botanical garden at Calcutta.

Juniperus Chinensis.—This low spreading shrub has also been brought from China and cultivated in the same gardens as the above.

Justicia Picta. *Acanthaceæ.*—This is a very ornamental and handsome variegated shrub, bearing red flowers, having green leaves with large white spots fringed with green, and some varieties with red and dark red spots. The leaves are used for the decoration of the dessert after dinner, and other ornamental purposes: few leaves can be found on which some grotesque resemblance to the human countenance may not be fancied or traced.

Justicia Ecbolium. *Acanthaceæ.* Nat. Oodoo-jatee.—A shrubby plant, with azure colored flowers.

Justicia Paniculata. Nat. Creyat.—This plant grows wild in the southern parts of India, and is highly prized as an excellent stomachic; and is said to form the basis of the famous French bitter tincture termed Drogue Amére.

Justicia Nasuta. Nat. Kabuter ke jar ke jurr.—A shrubby plant with white flowers in axillary and terminal panicles; grows spreading along the ground. The leaves are bruised and used by the natives for curing ringworm.

Justicia Coccinea.—This is a species bearing a small pink flower. The leaves are of a reddish colour underneath. It is said by the natives that the root is an antidote to the bite of a snake, and that it is the root sought after by them when bitten by the cobra.

Justicia Gendarussa. Nat. Kali-Shumbali.—A handsome shrubby plant with bark of a dark purple hue very smooth, and in some varieties green, flowers during the rains, it grows readily by cuttings or slips: the leaves when rubbed have a strong and not unpleasant smell; they are roasted and given by the natives in chronic rheumatism.

Kleinhovia Hospita. *Byttneriaceæ.*—A tree with alternate broad cordate leaves and small pink flowers in terminal panicles; capsule pear shape and inflated.

Kumruck.—Vide Averhoa Carambola.

Kurundu.—Vide Carissa.

Lagerstroemia Alba. *Lythrarieæ.* Lagerstroemia Indica. Nat. Henna or Telinga-China.—This is the white flowering species of the China mendie. A common shrub in gardens, and used for border hedges, it bears a small reddish flower and grows easily from cuttings at the commencement and during the rains.

Lagerstroemia Regina. Nat. Urjoona.—A small tree with opposite oblong leaves; flowers in May in large terminal panicles of a dark blue or purple colour, exceedingly showy.

Lagerstroemia Lanceolata. Nat. Bodah or Bondaga.—An erect tree with oblong lanceolate leaves, flowers small, white, appearing in April and May, the whole of the species may be propagated by seed or cuttings in any garden soil.

Laurel.—Vide Croton Variegatum.

Laurus Camphorifera. *Laurineæ.* Nat. Cafoor.—Camphor tree of China introduced into Bombay, it is a large tree with ascending branches, bark of the stem somewhat rough, but on the inner surface is smooth and mucous. The tree does not blossom until it has attained a considerable size, the fruit is a purple berry the size of a pea, it is composed of a soft pulpy substance having the flavour of cloves and

camphor: the camphor is obtained by incision in the bark whence it exudes, a tree seldom produces more than three pounds.

LAURUS CINNAMOMUM. NAT. DAR-CHEENI.—This tree is rare in the Deccan, and is only to be found in private gardens; where it is most probably introduced from Ceylon, where it blossoms in January and February, the seeds ripen in about four months, the berry is oval about the size of a pea and when first gathered the taste resembles that of the Juniper berry, and when dry, if boiled, yield a substance which when cold becomes solid like wax, and may be made into candles; propagated by seeds, shoots, or layers; soil a sandy loam mixed with decayed vegetable matter.

LAURUS PERSEA. *Laurineæ.*—This tree grows to a large size and requires much water. The wood is very brittle. It bears fruit during the rains, the size of a baking pear, but to describe it more accurately would be to say that it is from six to eight inches long, and in the thickest part about three inches in diameter. It is called Subaltern's butter. The outside has a dark green skin, rather thin; and inside a soft whitish pulp, which may easily be divided with a spoon. The seed is about the size of a pigeon's egg, and will grow if planted immediately. The flavor of the pulp is sweet and creamy, and perhaps the name of Subaltern's butter is derived from this particular taste and appearance. The Natives do not seem fond of it.

LAVANDULA VERA. *Labiatæ.* NAT. SITAKEPUNGERIE.—This plant never blossoms in the Deccan, as far as I can discover, but grows to great perfection on the Neilgherry Hills. The bush here has a strong aromatic scent, but seldom survives more than two years.—Is propagated by cuttings and layers, in a good rich soil—it grows best in pots.

LEAD WORT. *Plumbaginaceæ.* PLUMBAGO. RED COLORED. BLUE. WHITE.—The white flowered grows wild.

LEMON.—Vide Citrus Limona.

Leonurus Tataricus. *Stachydea.*—Tartarian Motherwort,—This is a shrubby plant grown from seed and cultivated in some gardens.

Lime, Sweet. Meeta Neembo.—This is a sweet variety, and grows to the size of a large orange. It is easily propagated by seed. The juice of the fruit is very grateful to persons with fever, although rather tasteless. It will grow also from cuttings. The young shoots make a very good stock for orange grafts.

Limonia Pentaphylla. *Aurantiaceæ.* Nat. Ash-shoura.—The five leaved Limonia bears a smooth roundish red fruit about the size of a marble, eaten but not held in any estimation; easily propagated by seed.

Limonia Acidissima.—A shrub with pinnate leaves, and winged petioles; fruit small, size of a pea; an article of commerce, used as a tonic.

Liquorice Plant.—Vide Abrus precatorius.

Liriodendron. *Magnoliaceæ.*—The tulip tree.—This tree is highly ornamental growing to a large size and well adapted for a plantation or lining an avenue, the flowers are large and of a yellow and red color which appear in the rains, it is easily raised from seed. The bark is a strong tonic and is said to be equal to the Peruvian. The wood is fine grained and smooth, used by Coach makers and Carpenters.

Litchi.—Vide Scytalia Litchi.

Lonicera Leschenaultii. *Caprifoliaceæ.*—T. Moullee-quedi.—A twining villous shrub native of the Neilgherries, is found in many gardens of the Deccan where it grows in great luxuriance, it is easily propagated by cuttings or layers.

Loquat.—Vide Eriobotrya Japonica.

Lotul.—Vide Osyris Wightiana.

Lucern.—Vide Medicago Sativa.

Lycopersicum Esculentum. Tomata or Love Apple.—The produce of South America—a genus of the same family as potatoes. There are two sorts, single and double: may be sown immediately the rains commence, in beds; afterwards transplanted in rows, two feet apart, and trailed upon sticks of a strong description. If the soil is good, they will grow to seven or eight feet in height. The double, which are the finest, if sown in June, ripen in October. The lower branches should be pruned, and a succession of crops may be kept up until April. The small single tomata, with a slight protection from the dry winds, will continue until the rains.

Maclura Tinctoria. *Urticaceæ.*—This tree grows to the height of thirty or forty feet, from the wood Fustic, a yellow dye is obtained.

Malabar Night-shade.—Vide Basella Rubra.

Malabar Creeper.—Vide Ipomea Tuberosa.

Malpighia Coccifera. *Malpighiaceæ.*—A small stunted shrub, with leaves resembling the box; common in gardens.

Mangifera Indica. *Terebinthaceæ.* Nat. Amb. or Amba.—Is a highly esteemed fruit, and may be procured twice in the year, but I have never met with any trees bearing two crops in the Deccan, only in Bombay. Propagation may easily be effected by seed and cuttings, &c., but the process is slow, as a tree thus raised will not bear fruit before the 5th or 6th year, whereas those that are grafted produce in the 2d or 3d, although it is injurious to the tree to let it bear so early, and I therefore recommend that the blossoms should be removed. Young grafts will sometimes, indeed very often, blossom the first season they are removed, and if allowed to bear fruit, it checks them for a length of time after. A mangoe graft may be applied at any time of the year: the stock must be kept continually moist by watering. When the graft and stock have become united, the former must be partially divided by a notch with a sharp knife: this may be done after six weeks have elapsed

from the time of its first being united: a second cutting may be effected a fortnight later, and the complete removal from the parent tree at the expiration of nine or ten weeks. After this, remove the graft into the shade for a fortnight longer, when it may be put into the spot where it is to remain. A graft tree never attains the size of a seedling, neither will it continue to live or bear so long, and I doubt much if the seed of a graft mangoe would produce the same fruit, whereas a seedling often does so. The time that a seedling takes to produce fruit is the great objection to this mode of rearing trees: nevertheless a young tree of three years old might have one of its branches brought into blossom by ringing; this would enable the cultivator to judge if the tree was worth preserving or not. The finest flavored sorts of Mangoe grown in Western India, are the Alphonso, Raspberry, Mazagon, Doriah, and Malgrobah: this latter variety is of a greenish tinge inside when ripe, and by far the largest of the whole, being three times the size of an Alphonso; and it ripens the last.

When the graft is planted out, it requires only a moderate proportion of care, clearing the ground of all weeds, and removing any buds that shew themselves. Within the space from the ground to where the first branches are to rise from, all superfluous and weak shoots should be removed, more particularly those from the centre of the tree, as also all branches that trail on the ground, unless required for grafting from. The tree is better for being pruned, and whenever the interior of the tree may contain superfluous branches, or when there is not sufficient room for the growth of the young and fruit-bearing shoots, a clear space must be provided,—and this can only be done by pruning. The best time for this operation is soon after the tree has done bearing fruit. No old and decayed wood should be allowed to remain, and great care be taken to remove on the first appearance the Borer,* should they indicate their presence by their appearance on the bark. When trees are old and have their bark injured, it must be all cleared away,

* See Clearing Fruit Trees.

and the parts covered with the composition recommended for that purpose.

I have been favoured with the following information from a friend at Aurungabad. Take slips from the healthy branch of a mangoe, at least two feet long, taking care to cut it one inch above the joint at the top and the same below the joint at the bottom. The cuttings will not all be equal, as in some branches the joints are short and in others long. The thickness of the slip is to be from three quarters to three inches in diameter. Half the length of the slip is to be slightly punctured with an awl, and then inserted into the ground to that depth (half of the slip) perfectly perpendicular; and then make a knob at the top of the slip with plain cowdung. The cuttings must be well watered in such a manner as to keep up an uninterrupted moisture in the ground; and moreover the cuttings are to be well shaded, and the coverings only to be removed by degrees as the plants attain leaves and strength, and not to be transplanted on any account until the next monsoon. The slips begin to bud within a month generally, but sometimes take a much longer period. In all cases the punctures are indispensably necessary, to admit of root fibres being thrown out from them.

The tree and fruit may both be improved, if, during the cold season, the ground is dug all round the roots, and by the addition of a suitable quantity of good old manure. The seed will only grow when fresh, and seldom after six weeks. From twenty to twenty-four feet of space should be allowed between each tree if a graft: double the space is required for a seedling.

Mangoe.—Vide Mangifera Indica.

Mangosteen.—Vide Garcinia.

Marsh Mallow.—Vide Althæa Officinalis.

Martynia Diandra. *Pedalineæ.*—An herbaceous plant with large cordate leaves, covered with a glutinous dew like substance; flowers diandrous, much like those of the sesamum. Capsule, with a curious double hooked bill.

MEDICAGO SATIVA. *Leguminosæ.* LUCERNE.—Cultivated in the Deccan for feeding horses, also in Goozerat, where it is coming fast into use among the natives as green food for cattle. Propagated by seed: may be sown at any season, in beds or rows. It requires much water, and each plant should have five or six inches of space allowed to it. Cultivators generally cut it, as it begins to blossom, when fresh shoots spring up, and a succession of crops is continued in this way for several months, by manuring it occasionally.

MELIA AZEDARACH. *Meliaceæ.* NAT. BUKAIN.—A species of Neem, found in all parts of the Deccan, especially round villages.

MELIA. AZADIRACHTA INDICA. NAT. NIM. T. VEPA VAYMPA.—Blue Neem tree, or Indian Lilac. This tree, like the last, is generally found near habitations; the flower much resembles the lilac, and an oil is expressed from the fruit. The bark is used as a febrifuge; the wood is light, strong, and useful.

MEMECYLON TINCTORIUM. *Memecyleæ.* NAT. ANJUNEE.—A highly ornamental tree with deep green shining leaves; flowers in February and March, of a purple colour, with the calyx beautifully streaked on the inside; it is called the Iron-wood tree. The leaves are used to stain mats of a yellow color.

MESUA FERREA. *Guttiferæ.* NAT. NAGASAR OR NAG CHUMPA.—A tree much cultivated for its elegant blossoms with silver petals and anthers like gold; they are highly prized by the natives; their perfume partakes of that of the rose and violet.

MICHELIA RHEEDII. *Magnoliaceæ.* NAT. PEELA CHUMPA OR GOLDEN FLOWERED CHUMPA.—This is a handsome tree with beautiful golden coloured flowers, held in high estimation by the Hindoos, the bark of the root of the tree is used medicinally in some female complaints.

MILK HEDGE.—Vide Euphorbia Tirucalli.

MILLINGTONIA HORTENSIS. *Bignoniaceæ.*—An elegant tree growing to the height of fifty feet, is in blossom towards the

close of the rains, and the seeds ripen in March. The bark is of a soft spongy nature, the wood is white, firm, and close grained.

MIMOSA PUDICA. *Mimoseæ.* NAT. LAJUK. TAM. TOTAL-VADIE. —The Sensitive Plant. Common in gardens, and grows readily from seed, color of the flowers pale pink.

MIMOSA ALBA.—The White Mimosa.

MIMOSA SCANDENS.—The climbing Mimosa. Nat. Gela. T. Gila tiga.

MIMOSA ADENANTHERA.—The unarmed Mimosa. Nat. Lajwanta species.

MIMUSOPS ELENGI. *Sapotaceæ.* NAT. TAINDOO OR BACUL, MULSARI.—An ornamental tree with dark green oblong alternate leaves, and white fragrant flowers; common.

MIMUSOPS HEXANDRA. NAT. RAJUN. T. PATTA.—This is a tree, common in the Deccan, and is generally planted by the Mussulmans with the Elengi; the wood is much used where strength and toughness is required; the fruit is eaten by the natives.

MIMUSOPS KANKI. NAT. KSHEERNI OR KIRNEE.—This tree grows to a large size, and is generally planted in groves: the fruit, which is about the size of a small olive, is of a yellow color when ripe, after the rains, and contains a sweet clammy juice, eaten chiefly by the Natives.

MISTLETOE.—Vide Viscum Opuntioides.

MOMORDICA CHARANTIA. *Cucurbitaceæ.* NAT. KURILLA.—This vegetable is very commonly cultivated by the natives at the commencement of the rains, the fruit is from ten to fourteen inches long, and from two to four in diameter; the edges are curiously notched and ridged, the flavour is bitter, and it requires to be soaked before being cooked.

MOMORDICA DIOICA. T. ANGAKARA GUDDA.—This is a smaller species and round-fruited, but differs little from the former: both are much cultivated by the natives for their curries.

MONKEY BREAD TREE.—Vide Adansonia.

MORINGA PTERYGOSPERMA. *Moringeæ.* NAT. MOOSING.—Indian Horse Radish tree.—This tree grows readily from seed, and attains a height of from fifteen to twenty feet, in its second year; the root when young and fresh scraped, has the flavour of English Horse radish; the pods when young and green are used as a vegetable both boiled and in curries; the seed when ripe yields a fine clear oil; the wood of the tree is soft and of little use.

MORINGA CONCANENSIS.—A new species discovered in the Southern Concan.

MORUS INDICA. *Urticaceæ.* NAT. TOOT.—Indian Mulberry. A small tree with long tapering leaves sometimes lobed, fruit dark red, used for making tarts.

MORUS ALBA. THE WHITE. MORUS NIGRA. BLACK.—These trees grow equally well in the Deccan; the white, growing to a very large tree, shedding its leaves before the hot season. The red mulberry bears fruit in the rains, as well as the black. Silk worms may be fed on the young fresh leaves, although the leaves of the white are preferred. Grows from seed or cuttings.

MORUS ATROPURPUREA. NAT. SHAITOOT.—Cultivated as the former.

MULBERRY.—Vide Morus Indica.

MURRAYA EXOTICA. *Aurantiaceæ.* NAT. BIBZAR OR KOONTIE.—An ornamental shrub, with beautiful dark green leaves; flowers white, and fragrant in the evening, and commonly known by the name of China-box; it is to be found in most gardens, and is easily grown by layers or cuttings.

MURRAYA PANICULATA.—A small tree with pinnate leaves; flowers white and fragrant, appear in December and January; fruit reddish.

MUSA SAPIENTUM. *Musaceæ.* NAT. KILAH.—The Plantain.

e fifteenth year, and is said to continue prolific for sixty or ghty years. Seven months in general elapse between the pearance of the blossom and the ripening of the fruit; and e produce of one bearing tree with another, under good ltivation, in the fifteenth year may be calculated at five unds of nutmegs, and a pound and a quarter of mace. It ars all the year round, but more plentifully in some onths than others, and generally yields more abundantly ery other year. It is necessary that the roots of the ees during their growth should be kept well covered with ould, for they have a tendency to seek the surface. The owth of the lateral branches is to be alone encouraged, d all suckers, or dead and unproductive branches, are to be ..ved with the pruning knife, and the lower shoots lop-off, with the view of establishing an unimpeded circula-of air."—*Penang Gazette.*

YRTUS COMMUNIS. *Myrtaceæ.* NAT. VILATI-MINDI.—Myrtle. common in all the gardens; grows well by layers, and cuttings. This shrub requires careful pruning, and after rains all the leaves, on which insects have deposited their must be removed, or the plant will lose its verdure and y the destructiveness of the young caterpillars.

LEA CADAMBA. *Rubiaceæ.* NAT. KUDUMBA.—This tree a very large size, common about villages; the fruit by the natives, who esteem the tree as "holy."

ELIUM LITCHI. *Sapindaceæ.*—This tree, originally from an ever-green, and grows to a large size. The fruit dark brown color, and contains a glutinous yellow ort of pulp: it is not much prized—perhaps from its quality to the Chinese fruit, which is much esteemed. t ripens in March and April.

M ANTIDYSENTERICUM. *Apocynaceæ.* NAT. INDURJAU. nmon shrub flowers in April and May in terminal The bark is used as an Astringent.

I OLEANDER. NAT. KARZAHRA. DOUBLE RED AND This grows wild on the banks of rivers, bearing both

There are several varieties of the Banana cultivated in the Deccan,—the large red, the green, and the yellow. A small sort, which is supposed to be the real Banana of the West Indies, is perhaps the most luxuriant of the whole. The plants blossom at all seasons, and as soon as the drupe of fruit begins to ripen, which is known by some turning color, it is cut and hung up to ripen in the house. The plant will not bear again, and may be cut down (otherwise it will perish of itself,) when the surrounding shoots grow up and blossom as the former. The plants are generally grown in beds or clusters in a good rich soil, when fine fruit is almost the sure return. In transplanting the shoots, if two or three feet high, about one half is generally cut off.

MYRISTICA MOSCHATA. *Myristiceæ.* NAT. JAYPHUL.—This tree has been introduced from the Eastward. The fruit ripens in the rains: it is the size of a large plum, with a green covering, and upon being opened, discovers a net-work of a dark red color surrounding the nut, which has a most beautiful appearance: this is the spice known as mace.

"The first care of the cultivator is to select ripe nuts and to set them at the distance of a foot apart in a rich soil, merely covering them very lightly with mould. They are to be protected from the heat of the sun, occasionally weeded, and watered in dry weather every other day. The seedlings may be expected to appear in from thirty to sixty days, and when four feet high, the healthiest and most luxuriant, consisting of three or four verticles, are to be removed in the commencement of the rains to the plantation, previously cleared of trees and underwood by grubing and burning their roots, and placed in holes dug for their reception at the distance of eighty feet from each other,—screening them from the heat of the sun, and violence of the winds. They must be watered every other day in sultry weather; manured once a year during the rains, and protected from the sun until they obtain the age of five years. The nutmeg tree is monœcious as well as dioecious, but no means of discovering the sexes, before the period of inflorescence, is known. Upon an average, the nutmeg tree fruits at the age of seven years, and increases in produce till

the fifteenth year, and is said to continue prolific for sixty or eighty years. Seven months in general elapse between the appearance of the blossom and the ripening of the fruit ; and the produce of one bearing tree with another, under good cultivation, in the fifteenth year may be calculated at five pounds of nutmegs, and a pound and a quarter of mace. It bears all the year round, but more plentifully in some months than others, and generally yields more abundantly every other year. It is necessary that the roots of the trees during their growth should be kept well covered with mould, for they have a tendency to seek the surface. The growth of the lateral branches is to be alone encouraged, and all suckers, or dead and unproductive branches, are to be removed with the pruning knife, and the lower shoots lopped off, with the view of establishing an unimpeded circulation of air."—*Penang Gazette.*

MYRTUS COMMUNIS. *Myrtaceæ.* NAT. VILATI-MINDI.—Myrtle. Very common in all the gardens; grows well by layers, and even cuttings. This shrub requires careful pruning, and after the rains all the leaves, on which insects have deposited their larvæ must be removed, or the plant will lose its verdure and beauty by the destructiveness of the young caterpillars.

NAUCLEA CADAMBA. *Rubiaceæ.* NAT. KUDUMBA.—This tree grows to a very large size, common about villages; the fruit is eaten by the natives, who esteem the tree as "holy."

NEPHELIUM LITCHI. *Sapindaceæ.*—This tree, originally from China, is an ever-green, and grows to a large size. The fruit is of a dark brown color, and contains a glutinous yellow sweet sort of pulp: it is not much prized—perhaps from its inferior quality to the Chinese fruit, which is much esteemed. The fruit ripens in March and April.

NERIUM ANTIDYSENTERICUM. *Apocynaceæ.* NAT. INDURJAU.—A common shrub flowers in April and May in terminal corymbs. The bark is used as an Astringent.

NERIUM OLEANDER. NAT. KARZAMRA. DOUBLE RED AND WHITE.—This grows wild on the banks of rivers, bearing both

white and red flowers: the root is poisonous. There are two other varieties very commonly met with bearing double flowers both red and white, and by budding the red color on the opposite one in several parts of the same stalk, a very pretty appearance may be given to the shrub. The yellow congener is called the Exile—introduced I believe from America. Grows easily from cuttings.

NERIUM GRANDIFLORUM. NAT. MENDASINGHI.—Double species cultivated by seed or cuttings.

NETTLE.—Vide Urtica Interrupta.

NICOTIANA TABACUM. *Solanaceæ.* NAT. TAMBACA. NICOTIANA PERSICA.—The well known Tobacco plant, is grown from seed and requires a rich soil, the plants should be at least two feet apart, and if the leaves are required for preservation and use, the flowers as they appear must be removed with the leading stem.

NUTMEG.—*Vide Myristicha Moschata.*

OLIBANUM.—Vide Boswellia Thurifera.

OLIVE.—Vide Olea Sativa.

OPUNTIA. *Cacteæ.* THE PRICKLY PEAR OR NOPAL.—This is used as a hedge plant about gardens, and forms a strong useful fence, both against men and cattle, but harbours rats and other vermin, also snakes. The red fruit is used as a dye, and may also be eaten.

ORANGE.—Vide Citrus Aurantium.

ORCHIS COMMELINÆFOLIA. *Orchidaceæ.*—Root of two or more spindle-shaped succulent tubers; scape erect, about eighteen inches high; round, smooth-jointed; with cylindric sheathes, about half the length of the joints. Flowers white, scentless; appear about the middle of the rains on pasture lands in the Southern Concan. Several species are found on the hills.

ORCHIS MASCULA. *Orchidaceæ.*—The Salep plant, is found on the Mahabulesh hills. It blossoms in June, and the roots

are dug up and gathered after the rains in November or December. Another variety is found in the hills and jungles near Candeish, but possessing a very bitter principle. It is dug up by the Bheels, and sold when fresh for a few pice the seer. It requires a great deal of soaking and preparation before it can be deprived of its bitter quality. When dry, it is in appearance as fine as the Persian. It requires being boiled in at least six different waters, and then dried in the sun, when it will become perfectly sweet and fit for use.

ORIGANUM MARJORAM. *Labiatæ*. NAT. MURWA. TAM. MAROO. —A native of India, very easily reared in beds or pots, either by slips from the roots, or seed. It is used for flavoring ragouts, sauces, &c.

OSYRIS WIGHTIANA. *Santalaceæ*.—The Lotel. A small tree with twiggy erect-growing branches; in flower and fruit most of the year. The fruit when ripe is of the size of a small sloe, of a yellow color, with a mark on the top like a "blaeberry." It is sweet and very pleasant when tasted, and is deservedly ranked amongst the wild fruits by Col. Sykes.

OXYSTELMA ESCULENTUM. *Apocynaceæ*.—A twining perennial; deciduous, flowers in the rains, large white, with a slight tinge of rose colour, and streaked with purple veins; texture thin and delicate.

PANAX FRAGRANS. *Araliaceæ*. NAT. GOOTI-SOONA.—A shrub, with fragrant flowers of green color, a native of Nepal.

PANAX FRUTICOSUM.—A shrub, with large supradecompound leaves, commonly grown in gardens, and easily propagated from cuttings.

PANAX OBTUSUM.—A shrub, like the former, but not so commonly cultivated in gardens, the roots of all are said to possess medicinal qualities, and are much esteemed by the Chinese for their beneficial influence on the nerves.

PANEOLA PLUM.—Vide Flacourtia Sapida.

PARINARIUM EXCELSUM. *Pomaceæ*.—A large tree brought to

Bombay from Goa ; the fruit which ripens in December and January, resembles a coarse plum, and is held in much estimation.

PARKIA BIGLANDULOSA. *Mimoseæ.* NAT. CHENDOO PHOOL.—A very elegant tree; the flower-buds resemble balls of red velvet, legumes filled with a farinaceous edible pulp.

PARKINSONIA ACULEATA. *Cæsalpineæ.*—A small graceful tree, with pretty yellow flowers in loose pendulous racemes ; grows readily from seed, and is well adapted for hedge rows, the stem from which the leaves spring is capable of being converted into a white fibre, and might be used for paper making.

PEACH.—Vide Amygdalus Persica.

PEAR.—Vide Pyrus Communis.

PEDALIUM MUREX. *Pedalineæ.* NAT. BURRAY-YOKEROO.—A succulent plant, with small yellow flowers which appear in the rains, the green leaves when agitated in water render it mucilaginous: this is prescribed by the natives in dysuria, the seeds are supposed to possess similar virtues.

PENTAPETES PHŒNICEA. *Byttneriaceæ.*—An erect growing plant; flowers axillary, large, of a beautiful bright red colour, appear during the rains.

PENTAPTERA TOMENTOSA. *Combretaceæ.* NAT. USUM.—A large jungle tree with thick leathery leaves ; fruit smooth, five winged ; the fibre of the wood is very tough, and used for making shafts to gigs, &c.

PENTAPTERA ARJUNA. NAT. URJOONA OR URJOON-SADRA.—This tree, like the former, is a common jungle tree, the bark is used internally by the natives as a tonic and is also applied externally as a vulnerary.

PERGULARIA ODORATISSIMA. *Asclepiaceæ.*—This is a creeper with a climbing woody stem, cracked bark, flowers yellow, and very fragrant, well adapted for covering trellis work.

PERISTROPHE LANCEOLARIA. *Acanthaceæ.* PERISTROPHE. SPECIOSA.—Vide Justicia.

PERSOONIA. *Proteaceæ.*—The Dele, the Embothrium, the Hakea, Banksia, and Persoonia, are interesting plants introduced from the Cape and New South Wales, the species being chiefly confined to the southern hemisphere. They are handsome green shrubs, and prized by gardeners for the neatness of their appearance and beauty.

PHARBITIS HISPIDA. *Convolvulaceæ.*—The Pale blue large flowered Pharbitis.

PHILADELPHUS CORONARIUS. *Philadelpheæ.*—A handsome shrub, producing white blossoms, having the appearance and smell of orange flowers; propagated by seed or layers.

PHILLYREA PANICULATA. *Oleinæ.*—A small tree with oblong ovate leaves; flowers in terminal panicles, pure white, bending down the branches, and giving the tree a graceful appearance. Introduced from China.

PHŒNIX FARINIFERA. *Palmæ.*—Is a dwarf species. The fruit ripens in May, and a species of sago is procured from the trunk, which is split and dried, and then beat in wooden mortars until the farinaceous parts are detached.

PHYLLANTHUS EMBLICA. *Euphorbiaceæ.* NAT. AWLA OR AUNLEE.—This grows to a pretty large tree and is cultivated throughout most parts of India, and is found wild throughout the Concan and Deccan; the fruit resembles the gooseberry having a sharp acid juice, and is eaten raw by the natives, and is sometimes made into preserves; the bark is strongly astringent and is used for tanning leather.

PHYLLANTHUS LONGIFOLIUS. *Euphorbiaceæ.* NAT. HURPOREORI.—A small tree, commonly cultivated for the sake of its fruit, which is the size of a large gooseberry; it is more esteemed by the Europeans than the Emblica, and is used both as a pickle and preserve.

PHYSALIS PERUVIANA. *Solanaceæ.* NAT. TAPUREBA.—The Winter Cherry. This plant, commonly called Cape Goosberry or Brazil Cherry, grows luxuriantly in a good soil. The seed should be sown at the commencement of the rains. The young

plants when about six inches high should be set out in rows at least two feet apart from each other, sufficiently wide apart, in fact, to allow the Gardener to pass easily between them. They may be grown either on sticks or on Trellis, and should be carefully pruned. The young shoots bear the finest fruit, and if carefully attended to, will bear almost all the year round,—the excellence and abundance of the fruit well repaying for any extra care bestowed on the cultivation of the plant. Being of easy culture, it is hardly known to what a state of improvement this apparently worthless fruit may be brought. Produced under an improved method of cultivation, it is a most wholesome and useful fruit. I know of none more so for tarts, or even for dessert, and for making jam or preserve. After seeing the common fruit, grown without care or attention, one would scarcely credit the size of that produced under proper and careful management. The bush should every now and then be carefully pruned cutting out the old wood, as the new shoots provide the finest flavored fruit.

Phytolacca Icosandra. *Phytolacceæ.*—An herbaceous plant; leaves alternate, entire, without stipules; flowers racemose. A tincture from the ripe berries has the reputation of being a remedy for chronic rheumatism and syphilitic pain.

Pine Apple.—Vide Bromelia Ananas.

Pinus Longifolia. *Coniferæ.* Nat. Chir.—The long-leaved pine.—A tall erect-growing shrub, with subverticelled branches and linear lanceolated leaves.—Introduced from the Cape.

Pisonia Grandis. *Nyctagineæ.* Nat. Bag-Achera.—A straggling shrub, armed with strong axillary recurved thorns; flowers small, in axillary terminal panicles. Forms an excellent hedge plant.

Pisonia Inermis. Nat. Kongi-putri.—Without thorns.

Plantain.—Vide Musa Sapientum.

Plantain Leafed Palm.—Vide Urania Speciosa.

PLUMIERIA ACUMINATA. *Apocynaceæ.* NAT. GOBUR-CHUMPA.—A small elegant tree, common; flowers white and yellow, tinged with red, very fragrant. A pure white caoutchouc is obtained from this tree.

PLUMIERIA ALBA. NAT. GULACHIN.—The White Chumpa.

POINSETTIA PULCHERRIMA. NAT. KRISHNA-CHOORA.—This is a beautiful plant, growing to the height of five or six feet, the leaves during the rains are green, and afterwards become of a bright scarlet having a most showy appearance, easily propagated by cuttings, both leaves and bark contain a milky juice which when dried and boiled possesses some of the properties of gutta-percha.

POMEGRANATE.—Vide Punica Granatum.

PONGAMIA GLABRA. *Leguminosæ.* NAT. KARUNJ.—A tree with foliage resembling the Baets; flowers in April and May: oil is made from the seed.

PORANA VOLUBILIS. *Convolvulaceæ.* NAT. BHOWREE.—A twining plant, flowers white, in axillary and terminal racemes; propagated by seed; requires no particular soil.

PRICKLY PEAR.—Vide Opuntia.

PRUNUS ARMENIACA. *Amygdalineæ.* NAT. ZARD-ALU.—The Apricot. This tree grows to a large size in gardens of the Deccan. It blossoms at the same season as the peach, from January to March; the fruit forms and attains the size of a common marble, after which it falls off, and this no care can prevent. Many efforts have been made to get buds to take both on the peach and almond stocks but without success, attempts to graft it by approach has hitherto been unsuccessful: the tree grows well on the first range of the Himaylayas, bearing abundance of fruit in the months of May and June. Propagated in the same way as the peach.

PRUNUS CERASUS. NAT. PADAM.—The Cherry. This tree is not found in any part of the Deccan but abounds wild in

tree in blossom, but the fruit did not set,—perhaps for want of proper treatment.

QUAMOCLIT PHOENICEA. *Convolvulaceæ.*—This is a very handsome climber with flowers crimson, tube long and slender; grows readily from seed.

QUAMOCLIT VULGARIS.—INDIAN FORGET-ME-NOT.—Sometimes called the star creeper, from the shape of the flower which is of a deep rosy red.

QUAMOCLIT ALBA. PURE WHITE.—Common like the former, easily grown from seed.

QUERCUS SERRATA. *Amentaceæ.* NAT. SHINGRA.—These trees are only found in the hill stations, where they have been grown from seed by private individuals. At Mahabuleshwar, a few plants have been grown, more resembling a shrub than a tree.

QUINCE.—Vide Pyrus Cydonia.

QUISQUALIS INDICA. *Combretaceæ.*—A scandent shrub, with beautiful flowers of various colours, from white to orange and deep red; has a very powerful perfume towards night. It grows from layers, or seed, but the latter are very difficult to find. It is by some called the Rangoon creeper.

RASPBERRY.—Vide Rubus.

REIDLEIA TILIÆFOLIA. *Byttneriaceæ.* NAT. MATHOOREE.—A small tree; the young leaves very soft and velvety; flowers small, rose coloured, in axillary and terminal corymbiform panicles, appear in November.

RHUS LUCIDA. *Terebinthaceæ.*—Shining leaved Sumach, introduced from the Cape.

RICINUS VULGARIS. *Euphorbiaceæ.* NAT. ERUNDI.—This tree is so common all over the country, that any description of its culture is unnecessary, except that if any person wishes to grow it for use, I would recommend a good soil, and sufficient space between the plants to enable them to benefit both by the sun and air.

Rose Apple.—Vide Eugenia Jambosa.

Rottlera Tinctoria. *Euphorbiaceæ.* Nat. Shendree or Toong.—Monkey faced tree, from these animals rubbing their faces, with the fruit. A large tree with alternate, ovate oblong leaves, of a ferruginous colour beneath ; flowers in the cold weather. Fruit size of a pea, covered with a red mealy powder, used as a dye.

Rubus Lasiocarpus. *Rosaceæ.* Blackberry. Nat. Gowree-phul.—Now cultivated generally in the Deccan, and believed to have been first brought from the Mysore Hills. It grows easily from seed; a few of the ripe fruit rubbed on a sheet of paper, and dried in the sun, will enable you to forward the seed to friends at any distance. (The same with the strawberry.) The plants should never be nearer than four or five feet, and may be cut down at the commencement of the rains, when they will throw out fresh shoots, and bear fruit in abundance. As it requires little care, and only an occasional supply of water, this bramble forms a very perfect and secure hedge to a kitchen garden. The finest fruit is very inferior to a common raspberry.

Rubus Rugosus.—The Raspberry. This plant never grows in the Deccan; a wild species is described by Graham as found in Mahableshwar.

Ruta Graveolens. *Rutaceæ.* Nat. Satoori.—Common Rue.

Saccharum Officinarum. *Gramineæ.*—Of all the varieties of sugar cane cultivated, the Otaheite seems now to have the preference, although I have seen in Berar cane looking as fine. The cane if it goes to seed is considered almost useless for sugar-making. A description of the mode of culture I consider unnecessary.

Sago Palm.—Vide Phœnix Farinifera.

Saguerus Rumphii. *Palmæ.*—This tree is scarce, and only found in some of the gardens in Bombay, where it has been introduced from the Sumatra Islands. It is only grown as

an exotic, and is a very beautiful species of palm, from its pinnate leaves. It is propagated by suckers from the roots of the old tree.

SAMADERA INDICA. *Simarubaceæ.*—A tree common throughout the Southern Concan.

SANTALUM ALBUM. *Santalaceæ.* NAT. CHUNDUNA OR GHUNDASARU.—Sandal wood. This tree grows both in gardens and the jungles. It bears a small black berry, which if planted grows without any trouble. The wood is generally brought for sale in small logs seldom exceeding eighteen inches in length. It is unnecessary to describe its use.

SAPIUM SEBIFERUM. *Euphorbiaceæ.* TALLOW TREE.—This tree is not very common, and is only to be met with in a few gardens. It is an ornamental tree, and bears flowers and fruit for a great part of the year together. The fruit is of a pear shape, yellow and red, which when ripe opens and displays two or three black seeds enveloped partially with a fatty-looking substance. This it is from which the Chinese extract the tallow and make into candles.

SAPINDUS INDICUS. *Sapindaceæ.* NAT. HOOROOA.—A small tree, flowers irregularly, fruit round and hard: three celled with a seed in each and which are used by the natives for intoxicating fish, the taste of the fruit is nauseous and the juice of the tree is considered poisonous.

SAPINDUS FRUTICOSUS.—Introduced from the Moluccas, flowers in racemes.

SAPINDUS EMARGINATUS. NAT. RITTAH.—Resembles the S. Indicus. The seeds are used medicinally, and also for washing the finer kinds of silk.

SARCOSTEMMA VIMINALE. *Apocynaceæ.* NAT. SOOM.—A valuable leafless plant, resembling the Euphorbia Tirucalli; flowers white in the rains, the natives tie the stems up into a bundle and place them in the watercourse of their wells for the purpose of preventing the attack of white ants.

Semicarpus Anacardium. *Terebinthaceæ.* Nat. Bhela.—The juice of this fruit is particularly acrid, and is used for marking linen; the tree is very common in the Deccan.

Sesamum Orientale. *Pedalineæ.* Nat. Gingelie.—A common plant springing up in waste places, and flowering towards the close of the rains; the flowers from the seed of which a bland oil is obtained resemble the fox glove.

Sida Acuta. *Malvaceæ.* Nat. Kureta.—A common plant, grows wild in many parts of the Deccan; flowers small, yellow, grows to the height of about three feet; and no doubt, like the S. Rhomboidea, a good fibre might be procured from it.

Singhara.—Vide Trapa Bispinosa.

Siphonanthus Indica. *Verbenaceæ.* Nat. Barungee.—A tall, erect growing, suffruticose plant, with linear leaves; flowers white or cream coloured, with long tubes.

Siphonanthus Fragrans. Nat. Hatti-kana.—Double Variety. A native of China.

Slipper Plant.—Vide Euphorbia Tithymaloides.

Snake Fruit.—Vide Eleagnus Conferta.

Soap Nut Tree. *Sapindaceæ.*—This tree is very common in the Deccan about villages. The leaves have a shining appearance, and the flower stalk a soft brown downy look, bearing a small whitish flower. The berries are used for washing by the natives.

Solanum Tuberosum. *Solanaceæ.* Nat. Aloo.—Vide Potato.

Solanum Melongena. Nat. Binegun.—Vide Egg Plant.

Sorrel.—This is grown by sowing the seed broad cast and thinning the plants to the distance of eight or ten inches from one another. It may be sown at the commencement of the rains.

Sorrel Plant.—Vide Hibiscus Sabdariffa.

Sour Sop.—Vide Anona Muricata

Swietenia Febrifuga. *Cedrelaceæ.* Nat. Rohun.—A large tree with pinnate leaves; flowers in April and May, in terminal panicles; capsule size of a small apple, five-celled and five-valved, opening from the apex; the bark is a powerful febrifuge, and an excellent substitute for Peruvian bark; grows in the jungles of Goozerat and the Deccan.

Swietenia Tubularis.—A magnificent tree with pinnate leaves, leaflets tomentose, capsule four or five valved; seeds arranged in a horizontal position, ripen in January.

Symphorema Involucrata. *Verbenaceæ.*—A species of St. Peter's Wort, cultivated by seed or cuttings.

Tabernæmontana Coronaria. *Apocynaceæ.* Nat. Tuggai.—A common shrub in gardens with dark shining leaves, flowers generally double, colour pure white, resembling wax, having a faint pleasant smell; propagated readily by cuttings.

T. Dichotoma. Doodee-ka-jhar.—A small tree, with fragrant white flowers, grows wild, the leaves are used by the natives in a decoction for curing sores on cattle.

Tallow Tree.—Vide Sapium Sebiferum.

Tamarindus Indica. *Cæsalpinieæ.* Nat. Umlee.—This tree is too well known to need any description here. The red tamarind, which is scarce, is the most valuable, the seed yields a fine clear oil.

Tamarix Indica. *Tamariscineæ.* Nat. Jhau.—A small tree or shrub; grows abundantly in the beds of many rivers, and affords great shelter for all sorts of game.

Tamarix Dioica.—A very graceful shrub, with numerous small rose-coloured flowers in terminal drooping spikes; common in the beds of rivers.

Tapioca Plant.—Vide Cassava Jatropha.

Tecoma Capensis. *Bignoniaceæ.*—An elegant creeping plant with orange colored flowers well adapted for covering a wall

or running up a trellis work, grown from seed in common garden soil.

TECOMA JASMINOIDES.—This plant is cultivated in the same way as the former. The color of the flowers pink.

TERMINALIA CATAPPA. *Combretaceæ.* NAT. BUDAM.—This tree grows commonly in all parts of the Deccan. It is raised easily from seed, and in a good, light soil, well watered, will in two years be ten or more feet in height, and give blossom. It is rather a handsome tree, and, from its large leaf (which turns red previous to its falling off,) has a very striking appearance. The fruit is of the size of a coarse plum, and the kernel, contained within the shell, resembles the English Filbert in flavor. It is produced at table with the desert.

TERMINALIA BILIRICA. NAT. BUHIRA.—A very large tree; leaves deciduous about the beginning of the hot season, when the flowers appear; fruit round, covered with a grey silky down; common in the Deccan. The flowers have an offensive scent.

TERMINALIA CHEBULA. NAT. HAR-HARA.—A large tree; flowers in May. The moochies use the fruit to form a black dye.

TERMINALIA NITIDA. NAT. YELLA.—A large tree with oblong fruit, from which an intoxicating liquor is made.

THEOBROMA CACAO. *Byttneriaceæ.* CHOCOLATE TREE.—This tree has been introduced into Travancore where it thrives well, the fruit is round but smaller than that produced in South America.

THEVETIA NERIIFOLIA. VIDE EXILE TREE. YELLOW OLEANDER.—This plant is common in the gardens of the Deccan; grows to the height of ten or twelve feet, with long tapering leaves; it is grown from seed, and blossoms throughout the year.

THYMUS VULGARIS. *Lamiaceæ.* THYME. NAT. IPAR.—A delicate plant to rear. Is best performed by seed, but it

may be increased by slips, and dividing the root. It requires a rich soil, and the space of six inches between each plant. Best grown in pots.

TOBACCO.—Vide Nicotiana.

TRAPA BISPINOSA. *Onagrariæ.*—The Singhara is a water plant, and is cultivated in many of the tanks. There are two kinds,—one with a hard thick shell, and the other with only a soft skin. The former, when ripe, has the appearance of a bullock's head, from two sharp spear-like processes growing from it. The fruit when boiled resembles a chesnut, and is sold in the bazaar. The seed is also made into a coarse flour, and cakes are made from it; the thin-shelled kind both fish and tortoise feed upon. In some parts of the country, great care is taken to preserve the seed for planting the following season, which is done by treading it into the beds of tanks and such places. The fruit is fit to be taken at or about the close of the rains.

TRIBULUS LANUGINOSUS. *Zygophylleæ.*—A common annual with yellow flowers and angular thorny fruit.

TRICHOSANTHES ANGUINA. *Cucurbitaceæ.* NAT. CHICONDA.—The Snake Gourd. This vegetable is cultivated by the Natives grown on trellis work, the fruit long and spindle shaped is used chiefly in curries, &c.

URANIA SPECIOSA. *Musaceæ.*—An elegant tree, a native of Madagascar: spreads its leaves out like an open fan, forming a semicircular head. It has a short solid trunk, with leaves like a plantain; and in a border, or at the end of a walk, when growing, forms a perfect screen: its peculiar appearance strikes a person immediately when seen for the first time. It bears a small fruit like the drupe of a plantain, which is of a blueish colour. Rox. says—"The plant has the property of rendering water or milk, either hot or cold, mucilaginous, without altering the taste, colour, or smell, of the liquid in its former state." Butter-milk and water is often thickened with the juice of this plant, and then sold as an unadulterated article of the richest and best description.

Is propagated by seed and suckers. Fifteen feet space should be allowed between each tree.

Urtica Interrupta. *Urticeæ.*—The Nettle, a large annual plant, grows during the rains. The whole plant is covered with stinging hairs, like the common nettle. It grows wild: there are several indigenous species.

Uvaria Odorata. *Anonaceæ.*—Sweet scented Uvaria. A small tree, flowers white, delightfully fragrant, introduced from China.

Uvaria Tomentosa.—A tree, the fruit of which is about the size of a Nutmeg; flowers of purple colour, and hang in clusters.

Vateria Indica. *Dipterocarpaceæ.* Can. Pynee.—A large tree, with fragrant flowers in terminal panicles; said to yield the resin called Copal.

Verbena Officinalis. *Verbenaceæ.*—A shrub common in most gardens, it is well known for its strong aromatic lemon scent. It grows from cuttings or layers, and no doubt would also from seed, as it blossoms freely.

Verbena Triphylla. Nat. Peela-Bhungara.—The Lemon-scented Verbena.

Vitex Trifolia. *Verbenaceæ.* Nat. Neergoonda.—A common shrub with pretty blue flowers, generally to be met with growing in patches, in moist places appearing in April and May, but more or less throughout the year.

Vitis Indica. *Ampelideæ.* Nat. Andhouka.—A wild shrubby climbing plant, common throughout the Deccan.

Vitis Vinifera. Nat. Angoor.—The Common Grape. This fruit is cultivated in the greatest perfection in all parts of the Deccan, and the finest flavored are found in the gardens in the neighbourhood of Dowlatabad, about seven miles N. W. of Aurungabad. The mode of culture is as follows:—the trees are reared from slips taken at the time

of first cutting after the rains, and when ready to be removed are put about seven or eight feet apart. They are for the first twelve months trained on dry sticks; after that, a large straight branch of the pangrah, with a fork left at the top to support the vine, is placed about twelve inches from it; if put at a greater distance it is apt to give a bend to the vine which is hurtful. The vine cannot be too straight, and the length of the prop should be about five feet.

VOLKAMERIA FRAGRANS. *Verbenaceæ.* NAT. IRUN.—A large common shrub with ovate cordate dentate leaves; white fragrant flowers (in the cold weather) in terminal panicles.

VOLKAMERIA INERME. NAT. SUNGHOOPIE.—A scandent ramous shrub, pure white flowers, in blossom nearly throughout the year, hedges are made with it.

WALNUT.—Vide Aleurites Triloba.

WOOD APPLE.—Vide Feronia Elephantum.

WRIGHTIA COCCINEA. *Apocynaceæ.*—A large tree; flowers externally green, internally deep orange red, having something of the perfume of the pine-apple.

WRIGHTIA TINCTORIA. NAT. KALA KOODA.—A small tree with pale green soft leaves; deciduous in the cold weather. On being bruised, a kind of Indigo exudes from them. Flowers in March and April; white follicles in pairs, from twelve to eighteen inches long, which as they ripen the ends of each pair curiously join. The wood is used by turners and cabinet-makers.

XYLOPHYLLA ANGUSTIFOLIA. *Euphorbiaceæ.*—This is a small shrub growing to the height of three feet, the color of the flowers is yellow and red.

ZANTHOXYLON RHETSA. *Rutaceæ.*—A large tree armed with sharp prickles; capsules have a strong aromatic taste; the seeds are used instead of pepper.

ZIZIPHUS XYLOPYRI. *Rhamneæ.* NAT. GOTTI.—A small

thorny tree, fruit round, used by the moochies for blackening leather.

ZIZIPHUS VULGARIS. THE JUJUBA. NAT. BIER.—This is a common wild fruit tree, and grows in almost every jungle. The fruit is astringent, but sometimes of a pleasant subacid flavor—eaten chiefly by the poorer classes, and wild animals. It is more especially cultivated by Mussulmans round their tombs. The fruit is oblong, containing a stone, and bears twice in the year, the best crop about January: after this is over, the tree is pruned, by cutting off nearly all the smaller branches. A second crop succeeds on the new wood in the rains, but, from being full of maggots, is not eatable: even in the cold weather very few of the fruit are free from this insect. The natives pretend that they have a remedy, which prevents the fruit from being attacked, but I have never known it succeed. The flavour is somewhat that of a fresh apple, and the fruit when large and fine is by no means to be despised. I have succeeded best by budding from a good tree on a common stock raised from seed. It will bear well in two or three years, but requires care and watering at first. A fine gum-lac is produced from this tree; the cocoon of the wild silk worm is often found attached to it.

GARDENER'S CALENDAR

FOR

BOMBAY.

MAY.

But little can be done in the garden beyond breaking up the soil and collecting manure: on light and poor soils, the dry mud from the bottoms of tanks may be spread with advantage. Dry leaves and grass may be collected and spread on the beds, and burnt a week or two before the rains set in, for manure.

JUNE.

But little more can be done than in the previous month. After the first rain has fallen, the growth of weeds is so rapid that constant attention is required to prevent the soil being impoverished by them. The best way to get rid of weeds, and roots of grass, is by trenching the soil two spades depth, and turning it over previous to burning; or after the first fall of rain, when the ground has become well softened. The Doob or Hureealee grass roots (Agrostis Linearis) are the most troublesome.

At the commencement of this month you may put down beans, white and black; cucumber, gourds of sorts, Jerusalem artichoke, and sweet potato. It is generally best to wait until the first heavy burst of the monsoon is over, in July, before transplanting all sorts of Europe vegetables, from turnips to lettuce and radish, for heavy continual rain is usually detrimental to the young plants. The climbers may be sown. Turnips, onions, tomata in baskets, and also nole-cole, cab-

bage of sorts, vegetable marrow, parsley, lettuce, and radish, for early sallads, and most native vegetables.

JULY.

This is generally the month in which the rain is heaviest. The use of the plough when practicable will be of great assistance in checking the weeds. It is of importance to ascertain beforehand whether your seeds be good, by putting them into water before sowing; such as are light, and float on the surface, are to be rejected. Vegetable seeds may be sown in boxes and baskets, but not too thickly; they must be sheltered from the weather, and require great care. The young leaves must be examined every morning, and cleared of all insects, particularly of a small slug or caterpillar: the transplanting must be frequent, and the young plants allowed room. Cauliflower, broccoli, cabbage, celery, and beet, may be thus brought forward, till at the season *(August)* for planting out they may have attained four to six inches high—a sufficient size to be put each in a small basket, from which the plant can be removed without disturbing the root, and an early crop secured.

Put down beet, lettuce, cabbage, turnips, nole-cole, asparagus, beans of sorts, spinage, country gooseberry, and tomata. It being sometimes difficult to get beans to germinate readily, they should be steeped in soft water for twenty-four hours previous to sowing, which will effectually remove this difficulty.

AUGUST.

Plants of the cabbage tribe that have been grown in boxes or baskets will now require great attention, both in daily picking off insects and protecting them from heavy rains. A species of caterpillar, dark in colour—some smooth and some hairy—have been found most destructive in this month. A solution of tobacco, lime, and wood-ashes, effectually destroys them.—Continue to sow lettuce, plant out celery, country gooseberry, tomata, brinials, cucumber, vegetable marrow, and parsley.

In sheltered spots and light soils, lettuces may be brought to a very fair state of perfection.

SEPTEMBER.

After Cocoanut Day, which usually falls in the end of August, the heavy rains generally cease, and you have passing showers with occasional sunshine. After transplanting, care should be taken to shade the young plants during the day with the shade-baskets, and to preserve them from the wet by earthing up.

The ground should now be well manured and prepared for the young plants, which may be set as soon as the rains hold off. This may be expected early in the month, but as the heat is great, care must be taken that they do not grow too luxuriantly: to prevent this, frequent transplantation is the most effectual check. For cauliflowers the soil can hardly be too rich: when the plant attains strength, dried fish pounded and applied to the roots will be found beneficial, water must be liberally supplied, and the beds frequently flooded. Trenches, *eighteen inches deep* and *twelve or fifteen wide*, should be dug for celery, and the young plants put in about eight inches apart. The soil should be rich but light, and in positions where the black earth prevails, a mixture of sand will be found advantageous. Towards the end of this month and the next, transplanting must continue.

Sow peas if in a favourable situation, artichoke, beans, carrots, spinach, cabbage, cauliflower, lettuce of sorts, and early salading: attend to strawberry plants, and prune all your fruit trees moderately.

Strawberry runners, which, during the heavy period of the monsoon have been placed in baskets, should also be now planted out in beds. These, as well as the vegetables, will require shelter from the sun as they attain strength: additional manure must be applied, and they should be flooded at least every other day. When they begin to produce blossom, straw or hay should be placed under them: it keeps the ground moist, and preserves the fruit from be-

ing injured by the water. Towards the middle of the month open the roots of your rose bushes, and do not water them for ten or fifteen days; cut the plants to within a foot of the ground, and at the expiration of the above period cover the roots well with rich manure and fish, and water abundantly Lettuce plants should now be put out, and the first crop of Potatoes planted. The best plan seems to be to place the cuttings, which should each have at least two eyes, on the sides of ridges; these should be about a foot apart, leaving a trench between them for watering, which should not be more frequent than every third day; the root requires three months to bring it to perfection, but in six weeks young potatoes may be dug for daily use. The best soil is the red earth or sand. They will grow to equal size in the black, but the produce is generally inferior in flavour. Where water is abundant, Lucerne may be sown in beds of convenient size. Parsley, turnips, spinach, radish, &c., may be sown in beds, and the first crop of peas; these may be either planted in rows or circles; in the latter way they occupy more space, but are more ornamental, and the produce is more easily gathered. They should be sheltered from the North-Westerly winds as much as possible, and well watered. In planting the peas in circles, the best plan is to put the seeds in two concentric circles about three or four inches apart, the outer circle being from three to five feet in diameter, according to the height to which the plant is expected to grow,—strong supporting sticks being placed in the centre. As it requires full two months to bring them to perfection, no seed should be put in after December.

The system to be adopted from this period throughout the cold season, is so similar to that pointed out in the Deccan Calendar, that it is unnecessary to add anything further now.

The season for trimming Vines is the latter end of September and beginning of October, and the system of treatment pointed out for the Deccan has been successfully followed in Bombay: great care must be taken in smoking the vines every evening about sunset while in blossom. and

till the fruit is well set. After the smoking, the stem should be gently tapped with a stick, to shake off a small insect which is most destructive to the blossom. With respect to directions for the culture of the different vegetables and trees enumerated there can be little added; and the instructions regarding budding, grafting, and enarching elsewhere mentioned cannot be too closely attended to.

Now plant out Strawberry runners, also your cabbage plants: sow celery, beet, spinach, onions, salsify, and sweet herbs, also turnips and carrots. Towards the end of the month, trim your roses and get ground ready for potatoes. Peas may be put down safely.

NOVEMBER.

Plant out all the cabbage species, York, drum-head, Savoy, red pickling do.; also cauliflower. Sow crops of peas, turnips, carrots, salsify, beet, spinach, radishes of sorts, onions, leeks, shallots, celery, lettuce, and endive.

DECEMBER.

Plant out cauliflowers, cabbages, peas, beans, nole-cole, lettuce, salsify, scorzonera, radishes, onions, leeks, tomata, carrots, and turnips.

JANUARY.

The same as last month, after which your vegetables will continue in perfection until the different crops are over; but radishes, sallads, and other such esculents, may be continued to be put down until the end of February.

GARDENER'S CALENDAR

FOR

THE DECCAN.

MAY.

This month is so hot and dry that very little can be expected from your garden, though much may be done in clearing away weeds, dead leaves, and plants, that are about and under your trees. Plough up your ground well for ensuing crops, and as the clods of earth become dry, have them knocked to pieces, and the weeds removed. Collect now your manure for after use.

Fruits in season are—mangoes, peaches, pumblemose, pomegranates, plantains, grapes, melons, oranges, pine-apples, a few strawberries, and apples.

VEGETABLES, EUROPEAN—are nearly out. The following are to be had, but not by any means in perfection:—cabbages, asparagus, artichokes, beet-root, carrots, red cabbages, lettuce, potatoes, and celery.

VEGETABLES, COUNTRY.—Cucumbers, brinjals, dill pussund, bulam-keira, kuckrie, peeaz root, tur cuckrie, umbarie ka bajee, chillies, and various others. Strawberries are not abundant, and can only be preserved with great care. In the part of the Deccan about Poona, pine-apples and grapes are brought into the market in abundance,—the latter chiefly grown at Sattara.

Asparagus beds may be opened and trimmed: if well watered, they produce fine heads towards the end of the month.

Obs.—Onions, if not taken up before, should now be stored, and when sorted, dried for a few hours in the sun: after that, remove them into baskets, or lay them on the ground in a dry place, secure from rats and other vermin.

Towards the latter end of this month, if the appearance of the season indicates an early setting in of the rains, then get ready boxes, or baskets, with light rich earth for sowing the following seeds: cabbage, nole-cole, celery, parsley, beet, lettuce, and sea-kale. If the seed is fresh and good, the cabbage will be up in five or six days. Great care is requisite both for watering and protecting the plants from birds, which at this season eat every sort of young green vegetable they can get at: covering the boxes or baskets with dry thorns is the most efficient method of protecting them. The boxes or baskets should for the first fortnight be kept under a shed or verandah, and from heavy rain.

In the garden you may, towards the latter end of the month, put down French beans, cucumbers, vegetable marrow, lettuce, peas, radishes, and various sorts of native vegetables, also Jerusalem artichokes.

Rain generally falls towards the latter end of the month, and the average at Aurungabad may be calculated at two inches. The thermometer ranges in the shade from 90 to 100 deg. The nights are mostly cool, as the hot winds cease soon after sunset.

JUNE.

In the early part of this month the rains generally commence, and much depends on the mildness of the season for the thrift of the garden. If your young plants, sown last month in boxes or baskets, are looking well, remove them into beds that have been a little raised and edged with tiles or bricks, so that the rain does not lodge: put in the plants about four inches apart; protect them still with thorns, and examine them as often daily as you possibly can. A small fly settles on them during the evening and

deposits its eggs, which are hatched in a few hours, when a small caterpillar is produced, hardly perceptible at first to the naked eye: in the course of a few days it has arrived at maturity, during which time it had been feeding, if left unmolested, upon the tenderest leaves of the cabbage plants. The centre of the sugar-loaf cabbage they seem most fond of; nole-cole next. This small caterpillar has the power of protecting itself from dust or water by spinning a thread from one edge of the minute leaf in which it is hatched to the other, thereby drawing them together; when it feeds in security. I think that I have observed that they cast a skin once during this stage, and, like the silk-worm, cease to feed for a time: when removed, they again feed voraciously and become quite green. If you shake the leaf and detach one, he immediately emits from his mouth a fine thread, by which he suspends himself, at the same time that he is connected with the spot to which he can and does draw himself up again for food. About the fifth day he ceases to feed, when he sets to work and spins a cocoon of silk over itself; in a few hours, about twenty-four, it has assumed a chrysalis state, and in three days after becomes a most beautiful little brownish golden-coloured fly, which I have since observed on the table-shades of an evening. It seems to hop more than fly, or rather makes strong bounds of at least a foot. As I have found the male and female together on the leaves, nodoubt the female soon lays her eggs and then disappears. These observations were made by me, being desirous to trace the insect through all the stages. When I found that it had formed its cocoon, I placed it in a covered wineglass, and the little golden-winged fly was the result.

Fruits procurable are, mangoes, pumplemose, pines, melons —going out; plantains, pomegranates, a few oranges, and late peaches, if the rain has not been very heavy.

Europe Vegetables.—Beet-root, celery, asparagus, artichokes, and small salad.

Country Vegetables.—The same as last month.

Obs.—Sow peas, French-beans, and other runners; parsley in beds, where it is to remain; also spinage, turnips, turnip-radishes, and native vegetables. You will find the small caterpillar very destructive to your young plants: look them over continually, and scatter wood-ashes from the kitchen over them; although this is not an effectual method of destroying them, it is useful. Carrots for an early crop may be sown on ridges, also onions. Beet, endive, and lettuce for early salading. If you find towards the end of the month any young shoots round the old celery, have them carefully taken up and planted in rows: they will in the course of eight weeks make an excellent addition to your vegetables. Towards the end of the month cucumber plants and French-beans should be well forward. If much rain has not fallen, keep them well irrigated by any means you possess. Potatoes for a first crop may be sown, but, except in *particular* situations I have seldom seen them thrive; for if there is too much rain, they run to stalk; and if too little, from the very great heat, they wither and dry. The potatoes produced are so small and few that it is almost labor thrown away. Weeds are now also very troublesome, and require to be removed.

The average of rain this month may be calculated at about four inches; the Thermometer in the shade from 86 to 92 deg.

JULY.

This month is excessively warm, and your plants will require much water if the rain has not fallen regularly, and also protection from the sun, though the cabbage plants should not have too much, and are better watered by the hand: be careful to earth up your peas and beans, which are now sufficiently forward to climb the sticks, and should be towards the latter end of the month in flower.

Europe Vegetables in season are—radishes, turnips, cabbage-sprouts, and nole-cole from old plants; lettuce and French-beans.

Country Vegetables.—Turnips, radishes, pumpkins, mathie ka bajee, coolfie, maut ka bajee, thooka, &c.

Obs.—Peas when about six inches high may be brought into blossom earlier, by having their tops nipped off about half an inch.

Fruit is now very scarce: plantains, jamoon, and a few oranges, to be had. Mangoes by the latter end of the month gone out. In Bombay, pines and pumplemose in abundance, also custard-apples and guavas. Sow carrots, pumpkins, vegetable marrow, artichokes, onions, peas, beans, turnip-radishes, &c., and all the native greens enumerated in another part of the work. Be careful to smoke well your orange plants morning and evening, by burning damp litter under, to windward of those that are bearing, to protect them from a *fly* or gnat very destructive to the young fruit. Rain this month about nine inches. Thermometer from 76 to 90 deg.

AUGUST.

The weather still very hot during the whole of this month, but as there is generally much rain, all vegetables grow fast. Those now coming, and in season, are—

EUROPE VEGETABLES.—French-beans, peas,* cabbage-sprouts, spinage, celery, lettuce, turnips, and cucumbers.

NATIVE VEGETABLES of all sorts, gourds, chillies, radishes, &c.

FRUITS.—Oranges, custard-apples, limes, figs, jamoon, plantains, pumplemose, pine-apples, &c.

Obs.—Sow vegetable seeds as last month; plant out your cabbages from the nursery beds, also beet and celery. Trim and cut blackberries; put down cuttings of every description required, shading them from the sun during the day by mats or otherwise, and take care that rain is never allowed to lodge in the beds. Weed all your plants carefully earthing up such as require it; and during the mornings and evenings burn all the rubbish you can collect, as directed last month for the orange trees. Apples begin now

* Peas sown the latter end of this month, and during the next, do not bear so abundantly; the stalks get millewed in the latter end of the rains.

to blossom. Towards the end of the month, prepare your strawberry beds for putting down the first stock of runners.

The average rain this month is from nine to twelve inches. The thermometer as last.

SEPTEMBER.

The weather is still warm and close, the same as last month. Native vegetables are now brought into the market in great abundance; and about Poona, some grapes, but green and only fit for tarts—these are from their second crop.

Europe Vegetables procurable are—nole-cole, peas, French-beans, white beet tops, spinage, radishes, lettuce, turnips, small carrots, Jerusalem artichokes, onions, asparagus, celery, parsley, and a few potatoes.

Native Vegetables are—pumpkins, turnips, native greens of all descriptions, sweet potatoes, Indian corn, brinjals, kurrala, keira, and numerous other sorts.

Fruits.—Oranges, pumplemose, guavas, plantains, papaw, mulberries, figs, rose-apples, sweet and sour limes, cocoanuts, loquats, pomegranates, roselle, white and red hibiscus, and custard-apples.

Obs.—Now plant out your strawberries from the nursery, selecting the first runners from the old plant. Sow the following seeds in boxes or baskets, for your cold season crop, as they can be better looked after than in beds, using the same precaution for their preservation as recommended in May:—cauliflower, broccoli, cabbage, nole-cole, &c.

In the garden you may put down potatoes, asparagus, artichoke, cucumbers, salad of every description, onions, beet —white and red, peas, beans, and all other kinds of runners; scorzonera, leeks, cress, turnips, and carrots. Also plant out any of the above from the nursery, if ready, in beds, where they are to remain. The latter end of this month is a good time for budding trees, such as apple, peach, orange, &c.; also to prune your vines. Mulberry cuttings thrive remarkably well if put down.

Average of rain, five or six inches. Thermometer as last month, from 75 to 90 degrees.

OCTOBER.

The weather continues hot during the early part of this month, but about the 20th a change is very perceptible, and the first crop of vegetables, or rain crop as it may be called, are now going out.

EUROPEAN VEGETABLES in season are—peas, radishes, love-apples, beet—red and white, vegetable marrow, and Jerusalem artichokes.

COUNTRY VEGETABLES.—Pumpkins of every description, also native greens, carrots, irvia, brinjals, sweet potatoes, &c.

FRUITS.—The same as last month.

Obs.—Put down vegetables as directed for last month. Sow kidney-beans, parsnips, carrots, peas, potatoes, and all vegetable seed for the cold season. Attend particularly to your vines, open apple trees, &c. This is the best month for planting out strawberries.

The rain varies very much during this month; seldom any quantity falls—from two to three inches, when the monsoon may be considered over. Thermometer until the 20th or 25th from 75 to 84 deg.

NOVEMBER.

Now the cold season has set in, and your garden should be well stocked with young plants. The Europe vegetables which would not come to perfection before, if planted now will thrive well; such as broad-windsor and kidney-beans, and parsnips.

EUROPE VEGETABLES, in season, the same as last month.

COUNTRY VEGETABLES.—Almost every description enumerated in the list.

Obs.—Plant out your cabbages, cauliflower, broccoli, celery, and beet.

Obs.—Now take up all your yams and Jerusalem artichokes for seed. Attend to the watering of fruit trees: put out any cabbage plants you may have remaining, as they will, during the hot winds in May, serve to be cut as sprouts.

The nights still continue cool, and sometimes the thermometer will be found as low as 64 deg. in the early part of the morning; during the warmest part of the day 84 deg.

MARCH.

Now begins every appearance of hot weather, though the nights are cool. Much is not now to be expected from the garden. Peas are quite out, so are broad beans; parsnips just coming in.

Europe Vegetables.—Cauliflower still continues good; cabbages getting hard and coarse. Nole-cole may be had; artichokes in abundance. Scorzenora, potatoes, endive, French-beans, leeks, celery, and lettuce, good.

Native Vegetables.—Irvia, sweet potatoes, carrots, brinjals, and almost every other native produce for the bazar.

Fruits.—Grapes in perfection; oranges getting scarce; guavas, peaches, apples, figs, plantains.

Obs.—By the latter end of this month, if the hot season is advanced, it will be necessary to take up your potatoes sown in December; but the longer you can keep them in the ground the better. During this month, showers continually fall. Be careful to attend to, and water your fruit trees. Porcupines and other animals are very destructive in gardens at night time, owing to all the grain in the fields being now gathered in. Thermometer from 84 to 90 deg.

APRIL.

The hot weather has now decidedly set in. The vegetables in the garden, half an hour after sunrise, look in a drooping state, and regular irrigation is necessary.

Europe Vegetables now procurable, but by no means in perfection, are—cabbages, artichokes, asparagus, celery, beet-root, carrots, tomatoes, salads.

Native Vegetables are—cucumbers, dill-pussund, kuddoo, mathie, soe, pollok, kumruk, brinjal, gajur, &c.

Fruits.—Grapes, peaches, strawberries, rose-apples, apples, oranges, pines, plantains, melons (mangoes just making their appearance towards the latter end of the month); besides many sorts of native fruits.

Obs.—Very little can be done in the garden now, as it is useless putting out plants. Constant irrigation is necessary for all vegetables, and the more they are sheltered from the hot winds the better. Ground may be ploughed and got ready for the ensuing rains. Now lay out your garden walks, as the Mallies have not much to do. Asparagus beds will be in full perfection if attended to and looked after. The small kinds of tomatoes continue, and salad, if well sheltered by the shade of plantains, or other trees, may be preserved.

Rain occasionally falls this month. The thermometer in the shade 92 deg. and upwards. No doing without tatties from the middle of the month.

EUROPE VEGETABLES.

ANISE. *Hind.* SONF.—Sown in a light soil after the rains, and allowed to remain where sown, thinning out the weaker plants.

ARTICHOKE.—Of the four species—only two are cultivated for use. They have large pinnatifid leaves, erect, and of about two or three feet long. From the centre arises a long stalk, which gives off branches, on the top of which is a large round head composed of numerous oval scales enclosing the florets sitting on the receptacle, commonly called the artichoke bottom, and which, with the fleshy part on the base of the scales, is the only part eaten.

The two sorts grown are, the French conical spine-leafed, and round Dutch globular-headed. The seed may be sown in June, and continued during the rains; the soil should be light and of a good loamy description; the seed sown at least six inches apart. When they are in four or six leaves, they may be transplanted in rows, and in open situations and good soil, three or four feet asunder. The ground should be of a light consistence and well manured. Let the trenches be about six inches deep, and at least from one to two feet broad: they will require occasional irrigation if the weather is dry, after having been well watered by the hand. When first removed, at the latter end of the rains, and the plants have arrived at almost their full size, a small black fly collects upon them in the greatest abundance, and destroys the whole of the leaves. This also happens to plants raised from seed sown in October, or at the close of the rains. When the plants, in January, February, and March, have arrived at their

full perfection, they may be propagated from slips that grow on the side of the old plants, which wither and dry as soon as the fruit is ripe and gone to seed. Care must be taken in removing both plants and shoots, that a sufficient quantity of earth is taken up with the roots, so that the spongioles are uninjured. When they appear to have taken root well, let the ground occasionally be loosened round them, and the stalks well earthed up. The best means of preserving the plants from being destroyed by the fly, is to cover the leaves well over with ashes from the kitchen, or to sprinkle them with tobacco water. The seed from Europe, the Cape, Persia, and Hindoostan, all grow well, but those which have succeeded best with me were from the upper provinces of Bengal: they were of the large globular kind, and from being acclimatised, I thought they did not suffer so much from the fly as others. More than one head should not be allowed on each stalk: pick all the others off. If a piece of stick is run through the stalk, across under each head, I think that it tends to enlarge it. The seed may be collected whenever ripe, which is mostly in May or June. The largest and finest heads do not always give the most seed—often the reverse. Young artichoke shoots if blanched may be eaten as salad.

Asparagus.—The species are many, but only one is cultivated for use. The roots of the wild species, "Asparagus Sarmentosa," are made into a preserve and also candied by the Chinese. The method of first raising the plants from seed, is either by sowing broad-cast, in beds of six feet square, or in long beds of about two feet broad, where they are to remain. If sown in square beds, when the grass is about six or ten inches high, and begins to bear small flowers, it may then be transplanted, and must be carefully taken up with a sufficiency of earth attached to the roots, and planted in trenches at least six inches deep and eighteen broad. Between each trench should be a space of one foot or more. The plants may then be laid down in double rows in the trench prepared at six or eight inches asunder—perhaps a greater distance may be better. The roots must be care-

fully covered, and well watered. The beds cannot be of too rich and light a soil, and must be kept clear of weeds, and watered as occasion requires. When the asparagus is sufficiently strong to commence working the beds after the stalks have gone to seed, the watering should be discontinued, and the stalks allowed to dry and wither; then uncover carefully the roots, being cautious not to injure the crowns, cut or twist off the stalks, and cover up the crowns again with rich manure about two inches high; then turn over upon it the spare ground that has been left between the trenches. Thus you will have in the middle of the rows a water-course, which will serve to irrigate the plants below. The watering must now be continued daily if necessary, which will cause the plants to send shoots up through the loose soil above them, and, if well managed, the grass will be white and fine. Before putting down your plants in trenches, plenty of good manure should be well dug into them, so as to form a rich soil for the roots to strike in. After the grass has been cut, and the shoots are getting thin, cease working the beds and let them go to seed, when they may be again worked. You will seldom get more than two crops in the year from the same beds, therefore you should have them in succession. I do not know of any animal, except rats, destructive to the roots: flooding with water is the only remedy.

Basil. Sweet Borage.—Grows as a shrub, and is only used for seasonings with other sweet herbs.

Grows in all parts of India from seed, or slips, in any light soil. Is used chiefly for flavoring sherbet, &c.

Beans, Broad and Windsor.—Should be sown in the cold weather, in drills, the same as peas, each bean at six inches apart; the rows sufficiently separated to admit a person to pass between them for picking, weeding, &c.

The best time in the Deccan for sowing is in November, and if the ground is light and well manured, there is no chance of failure. I would also recommend the seed to be

changed every season. Rats and porcupines are very distructive to them.

Beans, French—White, Black, and Yellow.—These beans are runners and dwarfs; they should be sown in rows about two feet apart, and you may commence sowing them at the close of the hot winds. The dwarf white are preferable at the early part of the season, as they bear sooner than the other sort, which require sticks at least six feet high, and strong, so that they may stand the rain and wind; you can continue to plant them until March with success. All that is necessary is not to put them too close, and to remove caterpillars that are found upon them during the months of July and August. These beans are very hardy, and grow well in almost any soil.

The Portuguese bean, or Chevaux de Frize, is cultivated like all other beans. Its pod has four fringed angles, the edges jagged: they are dressed like French beans.

All the other sorts are grown in the same manner.

Beet-Root, Red and White.—Is grown from seed, and thrives best in a light grey soil. The seed may be sown in the latter end of May, and transplanted either in rows or beds. This crop will not produce such large roots as those sown later, but with care some roots fit for salad may be forthcoming in September; and I would advise the plants being grown on ridges during the rainy season. The leaves, when not too large, of both species, are used and eaten as spinage. The plants should be at least a foot apart, and in transplanting them, care must be taken to draw the root up unbroken, and the hole in which they are put should with a dibble be made quite even, and the plant put in straight. They may be transplanted at any period of their growth, except when going to seed, which all the early sown is apt to do. Fresh seed, if procurable, is to be preferred, though I have no doubt if seed grown in the Deccan were sent to another part of the country it would thrive well. Beet-root is always the finest for not

being transplanted. The soil cannot be too light, and should be of a rich old vegetable manure.

Boor-Cole.—Grows to great perfection; the leaves are curled. The tops should be cut off when two feet high; the sprouts being the only part fit for use. It is cultivated in the same way as cabbages, and may be had all the year round.

Broccoli.—For culture, see Cauliflower.

Cabbage.—I shall confine myself to two or three sorts—*the drum-head, sugar loaf, and savoy*, as all the others require similar care and attention. You may sow the seed in the latter end of May in boxes, or baskets, shaded at first from the sun, and kept continually moist. The advantage of sowing them thus early, is that the plants are strong by the time the rains set in, and the leaves do not offer to the small fly which settles upon them to lay its eggs, the nourishment necessary for the young caterpillar when hatched. The plants, when about three inches high, should be pricked out about two inches apart, into other boxes, and lightly covered over with dry thorns to prevent sparrows and other small birds from eating them. When large enough to be transplanted into nursery beds, use the same precaution with regard to thorns; and lastly, place them where *they are to remain, in rows about eighteen inches apart*, either on the top of the ridge, or in the hollow—the former method in the rains is to be preferred. The soil should be light and rich. In the cold season, the precaution of sowing the seed in boxes is unnecessary, as they grow very well in small beds sown broad-cast, and watered at first by the hand, after which, when removed, they thrive extremely well. If the seed is sown as late as January, you may raise a stock of plants, which come but to a small size, and if kept in the beds and sheltered from hot winds may be transplanted in the rains. They produce good sprouts for eating when other vegetables are scarce; as also the stalks of the old cabbages, of which, if towards the end of the rains the shoots be carefully stripped off, they may be planted, and a succession of cabbages be procured by this means. I have

known this plan adopted for years: in fact, in my own garden, particularly the red cabbage I have cultivated in this way for many seasons.

Obs.—You cannot be too careful in examining your young plants twice or thrice a day in the early part of the season, and having all the caterpillars picked off or destroyed. Sugar-loaf cabbage and knole-cole are particularly infested with them. I found that sprinkling the young plants, after watering, with a little black pepper, caused the small green caterpillar to leave the plant immediately. Slugs and caterpillars have a great aversion to pounded turmeric.

Capsicum* *Hind.* Mirchee.—This plant is so well known all over India as the large red pepper, that it is hardly necessary to describe the method of culture, which merely consists in sowing the seed broad-cast, and when the plants are about six inches high, putting them either in rows or beds eighteen inches apart. The soil should be rich. They require watering, and being kept clear of weeds.

Carrots. *Hind.* Gajur.—This vegetable is so well known as to need little description. The two kinds in general use all over the Deccan are the red and yellow—(orange and lemon colour); they may be sown at the commencement of the rains, broad-cast, in beds of about six feet square, and should be thinned, leaving a space of six or eight inches at least between each root: this distance is sufficient for your first crop, but those that are sown later should have at least six inches space allowed between each root. If you wish to preserve your carrots until the commencement of the rains, in the months of March and April cut off the green tops, and let the roots remain in the ground; this checks their growth, and I have by this means had good carrots until the middle of July. I found the yellow Cape to answer the best for preserving; the seed was not sown until January. They bear transplanting well, and may be sown with advantage in drills. The soil should be light and good: care must be taken, the same as in moving beet not to break the root.

* The Chinese produce the finest Capsicums I have ever met with.

CARDOON.—This resembles the artichoke, but grows much higher. The tender stalks and leaves when blanched are used for soups and salads, and are cultivated in the same manner as the artichoke.

CAULIFLOWER.—The seed should not be sown until the latter end of August, as it does not always head well: it requires the same care as the cabbage, and should be planted in a similar manner. Removing the plants occasionally prevents their quick growth, and I think if the roots, when taken up, were divided into halves, or quarters, before being put into the ground, that it would facilitate its going to head. The soil in which I have seen the finest heads grown was of a greyish description, and the plants had little water given to them. In England the market gardeners seldom water cauliflowers, and once in four days is amply sufficient in the Deccan: no injury will accrue even if watered less frequently. The white broccoli is, I am sure, often taken for the cauliflower in this country, and I have seen heads large enough to be divided into two dishes, and then form a sufficiency to cover a dish in general use for vegetables. Broccoli, both red and white, should be cultivated in the same manner as cauliflower.

CELERY.—The seed may be put down at the commencement of the rains, and, like other plants at that season, is better for being first sown in boxes or baskets, for the convenience of being removed under shelter, if the weather is bad. When the plants are about two inches high, they may be pricked out into other boxes or baskets, two inches apart, where they remain for the first four or five weeks, and then removed into beds or rows: to the latter I give the preference at the early part of the season; after that put them into square beds of six feet, and about twelve inches apart. They then grow so close in the leaves that they protect each other's roots from the sun, and keep the beds moist, besides being very readily blanched, merely requiring a couple of half circular tiles to be put around the stem, tied with string or matting; then earth up the sides, which completes the busi-

ness. In four or five days you may commence cutting, and by transplanting the off-shoots, have a succession the whole year round. The plant is very hardy, and goes to seed without any difficulty.

CELERIAC.—Another variety of selery, and is to be managed precisely in the same manner. It seldom grows above eight inches, and mostly spreads upon the ground. The root only of this is eaten: it forms rather a large white bulb, nearly the size of a parsnip, and has an exceedingly fine flavour. The root of the celeriac is used for stews rather than eaten raw.

CHIVES.—A species of shallot. Propagated either by slips or dividing the roots: this may be done at any season, but best after the rains. Nine or ten inches of space must be allowed between each bulb.

CRESS.—It is to be sown thick in very narrow drills, about one inch deep and a few inches apart. It requires to be well watered, and is in season all the year round. It is only used for salading. The seed is sold in the bazaars, and known by the name of Hallim: it should be cut for use when two inches high.

CORIANDER. *Hind.* DHUNNIA, KOTMEER.—Grown in native gardens.

CUCUMBER, GREEN AND WHITE.—This vegetable is grown from seed at all seasons. The plants should never be too close. It thrives in all parts of India, and grows with much or little water; and being a creeper, if allowed to climb over sticks, or trellis work, is more out of the way of jackalls and porcupines, who are fond of the fruit. The natives grow them in their fields, in the cold season, amongst grain of various sorts, and in the sandy beds of rivers during the hot weather.

EGG-PLANT, OR BRINJALL. *Hind.* BINEGUN.—Grown commonly in Native gardens; of this plant there are many varieties.

ENDIVE, CURLED AND FLAT-LEAVED.—The seed may be sown the earliest part of the rains in beds or boxes; the plants when about two inches high should be pricked out into beds,

or sown in drills. They should not be nearer than one foot, and when grown to their full size, must be tied up to bleach. If in the rains, it is requisite that the plants should be every now and then opened, to let off the water that may have collected inside the plants, otherwise they soon decay. The method adopted in England of placing a board on the plants for the purpose of bleaching, will not succeed here, as the white ants attack them, and the board stopping the free circulation of air, prevents their growth and causes decay immediately.

FENNEL.—Grows in great abundance in all parts of India. It is often confounded with aniseed. It may be sown in beds, or rows, and does not require any particular care. It has a perennial root, the stem dies as soon as it has given seed.

GARLIC. *Hind.* LUSSUN.—This is common all over India, and may be grown from seed or roots—the latter method is most in practice. One of the bulbs is broken and the cloves taken out and planted in beds about four inches apart: no particular care is required save watering and keeping clear of weeds. When the leaves dry and wither, then take up the roots and preserve in a safe place.

GINGER. *Hind.* ADRUCK.—Is a native of India, and is sown at the commencement of the rains in beds of about six feet square, and in a rich cultivated soil. The planting consists in dividing part of the green root, which the natives first soak in a mixture of cow-dung and water; it is then planted about two inches deep and about one foot apart; it requires a great deal of water, and to be kept clear of weeds. When the stalks dry, the ginger may be taken up, although it is sometimes left in the ground for a couple of years. It is better for remaining twelve months, and must be watered during the dry season.

HORSE RADISH.—I have never seen the plant in India:* a substitute is the scraped root of the moringa, which grows

* I have since heard it is, and has been, grown in Candeish.

wild; and the pods, when young, are used as a vegetable, both boiled and in curries. The tree is easily propagated by seed, and only requires watering for a few months when first sown.

Jerusalem Artichoke.—This is a species of sun-flower, and is, I believe, a native of south America. It goes to seed generally in October and November, and may be raised from it, or by dividing the root, planting them the same as potatoes. They should be put down in January or February, and will require occasional watering until the rains, when they make their appearance. As the plants grow they must be well earthed up, and if very tall, may probably require to be supported with sticks. This vegetable is ripe as soon as the stalk withers, and the best method of preserving them is to let the roots remain in the ground,—that is, if the white ants and other insects do not attack them. If you are obliged to take them up, keep them in a safe place, in earth, watering them occasionally. To sow them, put either a half or a whole one, at a foot distance, in rows, the same as potatoes, and attend to them in like manner.

Leeks.—The seed may be sown at the commencement of the rains, or after, in beds, broad-cast. When about six inches high they require transplanting into large beds, or rows, at least one foot apart: they go to seed in the course of six months, and grow very well in all parts of the Deccan.

Lemon Grass, or Sweet Rush.—This is a fine aromatic grass, and flourishes well in any good soil. It is propagated by slips from the root, and only requires watering. It is used as an infusion.

Lettuce.—There are various sorts: the most esteemed are the cabbage, red and brown cos-lettuce. For early salading the seed may be sown at the commencement of the rains, although neither are in perfection until the cold season. They are mostly raised in small beds, and then transplanted into others at about one foot apart, or on ridges around other vegetables; they do not require any particular care. The ground should be light and rich, and when the plants

are sown at almost all seasons of the year, and go to seed without difficulty.

ORACHE, OR MOUNTAIN SPINAGE.—Of these there are several varieties, commonly known as red and green sag—the leaves are slightly acid; both sorts are boiled as spinage, but the red is most esteemed.

Propagated by seed—no particular soil required.

PARSLEY.—Is cultivated from seed: may be sown in beds or rows, where it is to remain. The plants, when about two or three inches high, should be thinned, and a space of at least a foot left between each. It will, if watered and taken care of, continue all the year round. A good plan is occasionally to cut down the leaves to within four inches of the root, as it makes the parsley throw out young and fresh leaves. It bears transplanting well. Always give the preference to Europe seed. The common parsley of the country is very insipid. The roots of parsley are much used in French cookery.

PARSNIPS.—This vegetable is very difficult to rear, as it does not often happen that the seeds come up; they should be sown broad-cast in beds of a rich soil, and the plants, when of a sufficient size, carefully thinned, leaving a space of one foot between each plant, and removing all weeds. They may be transplanted, but it must be done with the same care as recommended for beet-root. The proper time for sowing the seed is the latter end of July, and they will come in during March and April. It goes to seed freely, but the roots grown from it were by no means fine the second year.

PEAS. *Hind.* BUTTANA.—The large white, green, and brown, are now the common pea in the Deccan; the latter sort are boiled and eaten often in the shell. Peas may be sown in the beginning of June, and continued at pleasure until February, when the weather becomes warm and the stalks dry up, although I have known peas to be had much later in the sheltered gardens in the city of Aurungabad. The

method of sowing is very simple: they should not be too thin, or placed deeper in drills than two inches, and a space of three feet between the rows. I generally sow my first crop in double rows, with a space of a foot between: when they are ready to climb, I earth up both sides well, leaving room for the water to run in the middle. I then place good strong sticks in the centre of the rows, and on the outer side of each lay good old manure, after which little trouble is required. Keeping them free from weeds is of course essential, and if you wish to preserve the seed, take care and remove any of the plants that appear of a different kind when in blossom; also draw out all the thin and bad looking plants, to prevent the pollen impregnating the good, and if this seed be the produce of the rain crop, you will find that if sown again in the cold weather they will be much finer and last longer than the seeds of the former season. I was led to observe this from seeds that had fallen and grown up of themselves. If you sow for late crops, I recommend their being put down in single rows, and the lines from east to west: this enables the sun to act upon the whole, and tends to prevent mildew from damp on the stalks. In growing crops that you do not intend to stick, it is advisable to put brushwood on one side for them to creep over, and prevent much loss in seed from damp and otherwise.

Potatoes. *Hind.* Aloo.—This vegetable, now so generally cultivated all over the Deccan, was a few years ago confined to Surat and Seroor. The former was generally the finer, and could only be had during the cold season; but now the potatoes are grown all the year round: on the Neilgherry and Mahabuleshwar hills they are in abundance. They should be planted in rows about one foot apart, and five or six inches deep; the space between each row, if ground can be spared, eighteen inches, otherwise a foot. The ground should be light and loamy, and as little infested with white ants as possible. They can be sown at the commencement of the rains, but the spot should be selected where the water cannot lodge, but be easily let off; which may be done by keeping the end of the channel between the ridges open. At this season plant your potatoes on the

top of the ridges, and do not water them unless necessary, as too much water makes them run to stalk. If your ground has not been well ploughed previous to the rains setting in, and all the weeds destroyed, the chance is your crop will fail; but should you have your ground ready, take your potatoes, intended for seed, and cut them into pieces, taking care that each slice has at least two eyes in it; and as you cut the slices, whilst fresh, dip the cut side of each into wood-ashes, and let them dry well, which takes place in a few hours: this I think prevents the white ants' attack. Sow each slice from nine to twelve inches apart, and place by the side of each a small clove of garlic, which in some measure tends to prevent the attack of a large grub very destructive to the plant.

Obs.—Here I think I am in error with respect to the grub, as the insect's eggs must be in the manure when added to the soil, and I have little doubt but that if the manure was previously worked up with the soil two or three times during the hot season, and exposed to the heat of the sun, the eggs would be destroyed: or the same purpose might be effected with a little fresh lime. I am sure the caterpillar does not travel to the plant.

The finest crops in the Deccan are sown from the beginning of October to the latter end of December, and this last crop will be found the most productive. Fine crops of potatoes have been grown where hemp has been first sown, and when about two feet high ploughed up into the ground. If, when your potatoes are about flowering, you perceive any of the stalks wither, carefully open the earth and look for a grub, which you may be certain is feeding upon it—of course destroy it. When these grubs are very numerous, it is necessary to search all the drooping plants daily: my idea is, that the larvæ is brought with the manure, and is the deposit of a beetle—however, nothing can be done but destroying them. I have heard recommended a bag with a small quantity of assafœtida to be placed in the water-course, as a remedy, when the plants were being irrigated. Here again is another insect which deposits its egg on the stalk of the plant. In the rains a small caterpillar eats its way into the stalk above the ground, when the plant immediately

droops: the remedy is to remove the whole. Be careful at all seasons to keep the stalks well earthed up, and let the potatoes have a moderate supply of water—of course the season must be your guide. I one year, at Kunhur, raised a very fine crop of potatoes during the rains, by sowing them on ridges, and only watered them at first in consequence of want of rain: they were sown in the beginning of July, and a few taken up in September (the latter end). Some of the potatoes weighed from five to seven ounces, and were equal to any I have seen grown on the hills.

In the latter end of August, by way of experiment, I tore off shoots from the lower end of the stalks, when they were abundant, and planted them in rows, the same distance as for seed; and in November, on taking them up, was gratified by finding four or five large potatoes produced by each stalk, the size of a duck egg. This plan I strongly recommend to those persons who may not be able to get fresh seed after the rains. I did not find that the rows of potatoes from which the slips were taken produced fewer potatoes in consequence, as I weighed the whole and kept a memorandum in my journal.

PUMPKIN. *Hind.* KUDDOO—RED AND WHITE.—This vegetable grows in great abundance in all parts of the Deccan. It is much esteemed both by Europeans and natives. It is generally sown at the commencement of the rains, and requires no particular care; the soil should be light and good. When young, about the size of a goose egg, if cut and boiled, it will be found to resemble the artichoke-bottom dressed in the same way.

PURSLANE. PORTULACA SATIVA AND OLERACEA. *Hind.* CHOOLEE.—Round stem, fleshy leaves, and slightly acid. It is used as an ingredient in salads. It is reared by seeds sown at the commencement of the rains, and will thrive in any soil.

RADISH, *Hind.* MOOLLEE.—This vegetable may be sown at the commencement of the rains, either in beds broadcast, or on ridges of beds where other vegetables have been planted. I prefer the ridges in the rainy season, as I think

they grow better. You may continue to sow them until February. The turnip-radishes are of various colours—white, red, Spanish black, and purple: also long white, red, and purple. The seed should be trodden in, or beaten down, and then a good watering given to them. When about three inches high, they must be carefully thinned, leaving at least a space of five fingers' breadth between each plant. They take from three to five weeks to come to perfection, and require a good share of watering. The seed pods are often used for pickles when green.

Rosemary.—This plant is an evergreen, and highly aromatic, and grown precisely the same as lavender, or oyster-plant.

Sage.—A perennial, native of the South of Europe; it grows in all the gardens, and is propagated by seeds, layers, and slips, without any difficulty. It is used for seasoning.

Scorzonera and Salsafy.*—This is a long milky-juced root. Grows without any difficulty after the rains. It is an annual from the South of Europe. It should be sown either in beds, broad-cast, or planted out in rows at a distance of a foot apart. The root when boiled and dressed is rather a delicate vegetable. It comes to perfection in three or four months.

Shallot. *Hind.* Gundhund.—Propagated in the same way as the chive.

Sorrel.—This is grown by sowing the seed broad-cast and thinning the plants to the distance of eight or ten inches from one another. It may be sown at the commencement of the rains.

Spinage.—The produce of what country unknown. It may be sown in the rains, but it succeeds best in the cold season: it should be sown in lines a foot apart, or in beds, broad-cast, lightly covered over. It requires a moderate share of irrigation. The native vegetable, called seo pollok, when boiled and dressed, very much resembles it.

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* Salsafy.—This is the black scorzonera, and requires the same treatment.

Spinage, New Zealand.—Is a hardy annual, with fleshy leaves and numerous branches. As a spinage it is as valuable as the Orache. If watered, grows freely, and produces leaves in the hottest weather.

Thyme. Thymus Vulgaris. *Hind.* Eepar.—Very delicate plant to rear. Is best performed by seed, but it may be increased by slips, and dividing the root. It requires a rich soil, and the space of six inches between each plant. Best grown in pots.

Turnips, Annual.—The produce of Britain. They are cultivated in all parts of the Deccan at the commencement of the rains and the cold weather. They continue until the latter end of February, and go to seed easily. The soil should be rich and light, and they may be sown broad-cast, and then transplanted, either in rows or ridges, and a space of at least six fingers' breadth allowed between each. In the rains a small caterpillar is bred on the leaves, which, if not removed, will destroy the whole. The sorts are white, and red; one species grows above the ground.

Vegetable Marrow, or Squash. *Hind.* Suppara Roomro.—This is a very delicate vegetable of the Gourd species. The crooked-necked, when about six inches long, is well flavoured, but soon gets hard and stringy. The pear-shaped is the best of any, but must be dressed when young.

Propagation only by seed, and the plants should never be removed, but remain where sown, only thinning the weakly ones.

The soil should be a rich loam, the same as for cucumbers. Train the plant on sticks. It is often necessary to fertilize the female blossoms, by approaching the anthers of the male flower when charged with pollen.

Water Cress.—A native of Great Britain. Is generally raised from slips. It thrives best in running streams, and is to be had all the year round. It is grown from seed in beds near a water-course, and the supply may be kept up for any length of time. A small black caterpillar is very destructive to it: the only remedy is flooding the plants for a short time.

vegetables as peas, radish, spinage, &c., that do not require more than three months to come to perfection. This is a good month for altering or making a garden, laying walks, &c. Open the roots of vine trees.

FEBRUARY.

MADRAS.

Mean temperature, 77·7.—Average fall of rain, ·04 inches.

The remarks on last month apply generally to this; but there is less chance of success in rearing vegetables, as they seldom acquire much strength before the hot winds set in. Turnips and carrots rarely succeed; but radish, mustard and cress, lettuce, endive, spinage, and the cabbage tribe, should all be planted in this month, and throughout the year.

All the fruits, vegetables, and flowers, mentioned as procurable in the market in January, may be had in greater perfection, and cheaper, during this month.

In the beginning of the month peas are plentiful; and with care the following may be obtained of good quality:—Jerusalem artichokes, asparagus, duffin beans, French beans, scarlet runners, beet-root, broccoli, cabbage, carrots, cauliflowers, celery (in great perfection,) endive, lettuce, knolkhole, onions, parsnips, spinage, turnips, and yams; also the following fruits,—custard apples, Brazil gooseberries, guavas, lemons, mangoes, mulberries, pumplemose, raspberries, sapadilloes, tomatas, and occasionally apples.

BANGALORE.

Mean temperature, 74½.—No rain.

In this month, pine-apples, peaches, grapes, and strawberries, may be had in great abundance and perfection. A few apples remain. Dahlia seeds should be sown, towards the end of the month, in situations protected from the burning winds of the two ensuing months: the old roots should also be planted in large pots of sand, covered with some fermenting vegetable matter, to induce them to send out shoots.

Very few vegetables can be sown with advantage this month. Graft peaches and apples, and prune apple trees.

MARCH.

MADRAS.

Mean temperature, 80·8.—Average fall of rain, 0·70 inches.

Few vegetables come to any perfection that are sown in this month, but it is desirable to sow successive crops of cabbage and knol-khole, which may be planted in beds that are partly protected from the sun, and transplanted into rows as required. With care, salad may be grown in this month, and generally throughout the year.

In the market, brinjals, carrots, and turnips, may be procured in considerable quantities, and pretty good. Turnips are generally very stringy towards the end of March. Country radish, and all kinds of country greens, may be had in large quantities; but no fruits can be obtained in the market, except the red and white plantain, which are always in season.

BANGALORE.

Mean temperature, 80.—Quantity of rain measured, 2¼ inches.

During this month, the roots of apple trees should be opened by those who approve of that system, and very strong manure should be applied. Strawberries, grapes and peaches, are in season. The ground should be dug about the roots of vines. The dahlias sown last month will require transplanting, and the shoots should be separated from the old roots. Plant tuberose roots. Beet-root and celery are in perfection. The winds and hot air of this month being very injurious to vegetation, as few seeds as possible should be sown.

APRIL.

MADRAS.

Mean temperature, 80·37.—Average fall of rain, 0·40 inches.

The remarks on March apply equally to this month; but

as the hot season advances, the chances of success in rearing most kinds of vegetables diminish. Melons and cucumbers should be sown during this month. Sow melons in rich light soil, giving the plants plenty of room to run. When they have made four leaves stop them by pinching off the leading bud; they will then produce two lateral shoots, which stop in a similar manner: and so continue to treat each new formed shoot, stopping it at the second or third joint. When the plants begin to show fruit, stop the fruiting branches two joints before the fruit. Cover the ground with leaves or straw, to keep the roots cool, and to prevent the fruit from becoming spotted.

In this month yellow and red plantains, pine-apples, grapes, pumplemoses, chota and camala oranges, are procurable in the market, Carrots, turnips, beans, and cabbages, are reduced in quantity, and their prices are considearable. Brinjals, radishes, water pumpkins, pavekah, peerkengah, and greens, are to be had in abundance.

BANGALORE.

Mean temperature, 80½.—Quantity of rain measured, 3¼ inches.

Sow all flower-seeds to come to perfection in July and August. They will be refreshed by the early rains, called mango showers, and there is generally rain in Mysore during June. Sow every kind of vegetable seed. As the mango will be in flower, if requisite, spread some manure round the roots of the trees, slightly stirring the soil. Shift the dahlias. Sow wheat. Plant potatoes. The flower buds should be dry this month, as the scorching sun will very effectually destroy the weeds.

MAY.

MADRAS.

Mean temperature, 86·8.—Average fall of rain, 0·77 inches.

Melons, cucumbers, l ve-apples, and Nepaul spinage, may be sown during this month; also successive crops of the

cabbage tribe, and mustard and cress. Mangoes, oranges, pine-apples, pumplemoses, red and yellow plantains, and grapes, are supplied abundantly. Brinjals, greens, peerkengah, drum-stick or moorungakaw; and in flowers, all sorts of mallgay flowers are to be had plentifully in the market.

BANGALORE.

Mean temperature, 81.—*Quantity of rain measured*, 3 *inches*.

Repeat the sowing of last month, or it may be deferred till next month. Transplant the seeds of vegetables sown last month, and prepare the beds for the final transplanting of knol-khole, cabbage, and cauliflower, watering the soil richly. The dahlias should now be turned out of the pots into the open ground, in a sandy well manured soil. Sow some cotton seed.

JUNE.

MADRAS.

Mean temperature, 88.—*Average fall of rain*, 1·46 *inches*.

If the season is at all favourable, this is a very desirable time to sow the first crop of celery, beet-root, and asparagus, in boxes, for transplanting towards the latter end of August or beginning of September.

Cabbage seed may be sown in boxes in all this month. If the weather be favorable for transplanting, they should be put out in beds in the following month, and finally transplanted in August. In ordinary seasons good cabbage may be procured in this manner during the whole of October, November, and December, by which time peas and other vegetables become abundant. If the weather should continue very hot during September, without showers, the plant should be kept in the boxes until the end of September or beginning of October.

As it is desirable to get strong celery plants before the monsoon, fresh seed should be sown every fortnight from the middle of June until the end of October. Beet also should be sown in successive crops, and transplanted once

or twice. This vegetable is not likely to be injured by the heavy rains of the monsoon. Asparagus seed should be sown in boxes towards the latter end of the month, and transplanted in November, in rows two feet apart, and the plants one feet from each other. The soil should be mixed with a large portion of rotten horse manure: it is scarcely possible to make the ground too rich for asparagus. Fresh asparagus seed should be sown whenever procurable, and especially between the end of June and the beginning of December.

In this month mangoes, oranges, pine-apples, pumplemoses, plantains, pomegranates, cucumbers, melons, green. melons, and limes, are abundantly supplied, at low prices, in the market. Carrots, turnips, cabbage, and other European vegetables, are scarce and dear; but pavekah, podalongah, greens, and brinjals, are procurable in small quantities.

The following fruits and vegetables are also to be had in this month :—custard apples, sapadilloes, lemons, mangosteens, parsnips, salad, and vegetable marrow.

BANGALORE.

Mean temperature, 76.—Quantity of rain measured, 4 inches.

The directions for this month are very similar in many respects to those given for April and May, in order to have the flowers and vegetables later in the season. Mangoes are in great perfection. Stake the dahlias put into the ground last month. The Natives plough their ground and sow the earthnut. The white grub of the cricket is often very numerous this month, and commits dreadful havoc. This is the best month for sowing seeds from England, &c., provided they arrive in the two or three preceding months, but in general it is advisable to sow them as soon as they are unpacked. The fields for hay should be scratched by the native plough and manured. Cuttings and suckers of chrysanthemums, if taken off and planted in small pots, will flower in September.

JULY.

MADRAS.

Mean temperature, 86·7.—Average fall of rain, 3·73 inches.

In this month, it is desirable to sow celery, beet, knol-khole, cabbage, cauliflower, broccoli, asparagus, endive, lettuce, carrots, and turnips.

Celery.—Sow in boxes in this and the two following months. Remove to beds when about three inches high, and into trenches, as required, after being a month in the beds. The trenches should be 2½ feet deep, filled up with a foot of light soil and stable manure, and afterwards gradually, as the plant grows, with light soil, till within about six inches of the top. Water for the first two months with the hand, after which they may be occasionally flooded.

Another way.—Having sown and transplanted as above, remove into trenches four feet apart, and about 18 inches deep, nearly filled with horse manure and rich earth. As the plant grows, bank up into ridges, with light soil. By this method the root of the plant, and not the stem, is watered when flooded.

Knol-khole, Cabbage, Cauliflower, and Broccoli.—Sow in boxes during this and five following months. Remove in beds when two inches high, and transplant the cabbage and knol-khole twice, and cauliflower and broccoli at least three times, allowing the growth of a couple of new leaves between each planting.

Asparagus.—Sow in beds in July, and remove the plants in November into raised beds of one or two rows. When the berries become red, cut the plants two inches above the ground and dress the tops, when they will be ready to cut in ten days. By dressing the beds in succession, asparagus may be produced for the table all the year. Stable manure is the best, and the plant should invariably be watered by the hand, and never flooded except in the hot wind season.

Plants if taken care of will produce for eight or ten years; they should however be wintered (roots cleared of the earth and exposed for some days,) and the ground dressed, every second year.

Lettuce and Endive.—Sow in boxes and pots surrounded with water till the plants appear, otherwise the small red ant will destroy them: plant out as required, and tie up a few days before you cut for use. Black Town, or St. Thomé manure is the best.

Carrots.—Sow in a light deep sandy soil.

Turnips.—Sow in a rich soil well manured.

Peas.—Should the fall of rain be considerable throughout June, and in the early part of this month, a few peas may be sown once a fortnight until the monsoon, but the plants die so soon after they begin to pod, even in the most favourable seasons, that the produce is generally less in quantity than the seed sown.

In the market, all European vegetables are scarce and dear this month. Brinjals, greens, vendakaw, and other native vegetables, are supplied in small quantities. Mangoes and pine-apples are getting out of season. Plantains, cucumbers, and melons, are plentiful.

BANGALORE.

Mean temperature, 75.—Quantity of rain measured, 4 inches.

Mangoes still continue till towards the end of the month; young plants should then be grafted, and the trees pruned as soon as they have done bearing, as that is the only time when it can be done with impunity. Cuttings of all trees and shurbs should be put in this month, as well as slips of artichokes, whith, as soon as they have established themselves, should be cut down close to the ground. The Natives generally sow the raggy and cholum, prepare the ground for rice, and plant cuttings of sugar cane. Flower and vegetable seeds may still be sown, and in regular sea-

sons the cabbage tribe of the first and second sowings shoul be finally transplanted. The first crop of hay is cut thi month.

AUGUST.

MADRAS.

Mean temperature, 84·6—*Average fall of rain,* 4·76 *inches.*

Successive crops of all the vegetables sown in July should be planted this month, more especially celery and beet, which should be fit to transplant a second time before the monsoon. These two vegetables are less likely to suffer by excessive rain than most others. Artichokes should be sown in beds during this month, three inches between each seed, so as to allow the removal of the plants in November without disturbing the roots. To propagate by suckers, take off the suckers, and prick them out six inches apart; and when they become well rooted, transplant into deep rich soil, setting them two feet apart. If large, suckers may be planted at once where they are intended to remain.

To prevent artichokes running to leaf, and producing small heads, when the plants are from ten to fifteen inches high cut them off close to the ground, and cover them over with light dry old manure; when they have advanced a few inches repeat the operation. If the young plants are tied up for a few days before being cut off, they will become blanched, and may be eaten as salad.

French beans and scarlet runners may be sown during this month, and until February. They should be planted in rows two feet apart, north and south, and be well supported with sticks, or with an arched bamboo trellis, which is very ornamental.

European vegetables continue scarce and dear. Brinjals, greens, and other native vegetables, are to be had. Mangoes, pine-apples, and oranges, are very scarce. Plantains continue in abundance.

BANGALORE.

Mean temperature, 74.—Quantity of rain measured, 5⅝ inches.

Oranges, loquats, and alligator pears, in season. Insects :e excessively numerous and destructive. The orange tribe hould be budded and inarched, and propagated by gooties. 'lant beds with early strawberries. Still sow a few vege-able and flower seeds. Continue grafting mangoes. Trans-)lant cotton. Propagate carnations and pinks by layers. Be-;in collecting seeds of early flowering annuals. Dahlias are n perfection.

SEPTEMBER.

MADRAS.

Mean temperature, 83·7.—Average fall of rain, 5·30 inches.

Continue to sow all the vegetables mentioned for August. Transplant cabbage, cauliflower, broccoli, beet, celery, endive, and lettuce. Two or three crops of peas may be sown during this month, if the weather is favourable, but not with much prospect of success. The seed peas that answer best in Madras are those grown at Bangalore.

Peas should be planted in well raised beds, in double rows, about two feet apart. They should be watered by hand for the first fortnight, and afterwards flooded. Peas require no manure, but should be planted in good soil.

BANGALORE.

Mean temperature, 75.—Quantity of rain measured, 8¼ inches.

Alligator pears and loquats still continue. Apples come in. Sow orange seed and alligator pear stones. Young potatoe in season. The American cotton sown early, in full fruit. Plan Cape bulbs, either in the ground, or in very deep pots wel drained. the turnips and cabbages are much infested by a small dark caterpillar, which may be destroyed by sprinklin the plants with powdered lime. The rice begins to flowe Put down cuttings of geraniums, roses, violets, heart's-ease, &c Flowers are in great perfection. As most of the peach trees wil

have lost their leaves, the roots should be opened and exposed for fourteen days, and then strongly manured. The principal crop of hay is cut this month.

OCTOBER.

MADRAS.

Mean temperature, 82·0.—Average fall of rain, 11·12 inches.

The remarks on last month apply equally to this. Continue to sow all kinds of vegetable seeds in boxes; transplant from the boxes into beds, and immediately after the first heavy fall of rain remove into rows and trenches,—more particularly celery, beet, cabbage, knol-khole, cauliflower, and broccoli. Care should be taken in finally transplanting all the cabbage tribe, to provide against heavy falls of rain, by making trenches to carry off the water. Crops of peas should be sown every week or ten days from the beginning of this month until the 10th of December; peas sown after that time seldom pod.

Onions and leeks should be sown during this month in light rich earth, carefully covering the seed. When leeks are a few inches high, plant them in drills, eighteen inches apart, and nine inches plant from plant. As they increase in size, draw up the earth to their stems, in order to blanch them: leeks are much improved by blanching.

Sow parsnips in rich deep soil. Trench the ground two feet deep; sow the seeds in drills one foot apart, and thin the plants so as to leave eight inches from each other.

But few fruits, vegetables, or flowers, are procurable in the market this month; but cabbages, carrots, and spinage, may be produced from your own garden with ordinary attention.

BANGALORE.

Mean temperature, 74.—Quantity of rain measured, 4 inches.

Apples and vegetables are in great perfection. The main beds for strawberries should be planted. Vines will begin to flower early in the month: the borders should be dug.

nd well manured. Dahlias will begin to fail in this month. As soon as the leaves begin to wither, they should be taken up with the soil that adheres to them, and kept in a dry place. As soon as they have been sufficiently dried, they should be packed in boxes of sand till the time for planting arrives. The double tuberoses should be similarly treated.

NOVEMBER.

MADRAS.

Mean temperature, 78·9.—Average fall of rain 14·13 inches.

This is the month for activity in the vegetable gardens, as but few things arrive at much perfection which are not planted before the end of this month. The principal crops of peas should be sown during the first week, and continued every three days during the month; also French beans, scarlet runners, broad beans, and Windsor beans: the two last have rarely succeeded in Madras. Sow beet, knol-khole, cabbage, broccoli, and cauliflower, in boxes: transplant from boxes into beds, and remove from beds into rows. Transplant celery and remove into trenches. Plant out artichokes and asparagus. Broccoli and cauliflower seed planted on the 25th of this month, and transplanted on the 20th December, in a sandy soil, with a small quantity of horse dung soil with common manure, produced fine heads on the 18th of February. They were watered by hand for the first fortnight, and afterwards flooded in the usual way.

Potatoes should be sown towards the end of this month. They should be planted in light red soil in which no horse dung is mixed. The potatoes should be cut according to the number of eyes, taking care that each piece is of sufficient size. When planted, not more than one inch or one and a half inches of soil should be placed over it; and it should not be watered oftener than once in four days, even during the hottest weather. As it grows up, the soil should be banked up to the stalk. Great care

should be taken not to give too much water, and not to put too much soil upon the potatoe when first planted.

It has lately been recommended to plant potatoes whole instead of cutting them as formerly: it is also said that the produce is much increased by taking off the flowers as they form; but potatoes flower so seldom in Madras, that it is hardly possible to offer a practical opinion on the subject.

BANGALORE.

Mean temperature, 72.—Quantity of rain measured, 2¼ inches.

Apples are still in season. This is the last month in which the generality of vegetables can be sown with advantage. Sow the casuarina and other tree seeds. This is a good month to lay in a stock of manure, and prepare composts for the next year. The larger kinds of perennial water-flowers should be taken up, and reduced in size and re-planted.

DECEMBER.

MADRAS.

Mean temperature, 76·4.—Average fall of rain, 4·61 inches.

In the beginning of the month sow French beans, scarlet runners, broad and Windsor-beans. Peas sown in this month rarely pod, although they grow luxuriantly. Plant out celery from boxes to beds, and remove from beds to trenches. Sow cabbages and knol-kholes, and transplant as above. Vegetable marrow may be sown in the early part of this month in light rich soil. Earth up the stems of the plants as they increase in growth, and peg the leading branches down at a joint, and they will strike root.

Potatoes may be planted until the end of this month; but those sown during the first fortnight are most likely to succeed. Seed potatoes procured from England or the Cape, are greatly to be preferred to those grown in this country. When potatoes are planted whole, the produce is finer than when they are divided into two or three pieces; but the

same number of potatoes yield a larger crop by the latter than by the former method. Cape potatoes planted on the 18th of December made their appearance on the 30th of that month, and were ripe on the 16th of March. Potatoes should be planted in beds fully exposed to the sun. In rather shady places the crop is small, and when altogether excluded from the direct rays of the sun, they produce nothing.

European vegetables are scarce during the early part of the month; but all sorts of pavekah, pumpkin, water pumpkin, brinjals, podalangaw, sweet potatoe, or velly kelingoo, saury kelingoo, yams, aivully kelingoo, and leno vulty kelingoo, are plentifully supplied in the markets. Fruits are scarce, except plantains, guavas, and oranges. The saminthee flower and rose are to be had in great abundance.

BANGALORE.

Mean temperature, 69.—¾ inch of rain measured.

Apples are still in season. Young trees should be grafted, and cuttings put down to graft seedlings on. All vegetables in season. A good month for sowing melon and cucumber seed, as well as peas, radish, and spinage, but very few other vegetable seeds. Most of the exotic plants will have ceased flowering, the beds should therefore be dug up, and manured with a soil composed of two-thirds vegetable and one-third well decayed animal manure. Turn out and examine the dahlia roots. Prune the roses.

GENERAL REMARKS

MADRAS.

Winter and dress figs, mulberries, and custard apples. Dress pines in September, and remove the suckers, and dress again with stable manure, red earth, and sand, in January. Sprouts of cabbage, cauliflower, broccoli, and knol-khole, taken in February, March, and April, and even in May, afford a good vegetable during the hot season.

Plantains, pine-apples, and figs, may be watered in the mornings; but everything else in the evening only. The seed peas that answer best for Madras are those from Bangalore —the common white pea of Mysore. The best carrot, turnip, and onion seed is from Hyderabad; knol-khole from the Cape; and cabbage, cauliflower, beet, and celery, from England: other seeds from Bangalore and the Neilgherries.

Good manure for all sorts of flowers, is red earth and sheep's dung, in nearly equal quantities.

BANGALORE.

The meteorological observations of three years—1834-5-6— were one very hot, and one very rainy season: this may therefore be regarded as a very fair average when taken together.

NATIVE VEGETABLES, GREENS, ROOTS, LEGUMES, ETC.

Adruk.—Zingiber Officinale.—Ginger. It is a native of India, and is sown at the commencement of the rains in beds of about six feet square, and in a rich cultivated soil. The planting consists in dividing part of the green root, which the natives first soak in a mixture of cow-dung and water; it is then planted about two inches deep and about one foot apart. It requires a great deal of water, and to be kept clear of weeds. When the stalks dry, the ginger may be taken up, although it is sometimes left in the ground for a couple of years. It is better for remaining twelve months, and must be watered during the dry season.

Ajmood.—Apium Petroselinum.—Parsley. *See Parsley.*

Ajowan.—Ligusticum Ajowan.—Lovage. This plant is grown by the native gardeners for the seed only, which, from its highly aromatic property, is used for culinary and medicinal purposes. Propagated by seed and grown in square beds; the seed is sown in September and October and sold at five pice the seer.

Aloo.—Solanum Tuberosum.—*See Potatoe.*

Anasphul.—Illicium Anisatum.—Star Anise. Is brought chiefly to India from China, and is used for flavouring native dishes.

Ambaree kee Bhajee.—Hibiscus Cannabinus.—Hemp-leaved Hibiscus. This is an erect growing plant, of the height of

about four feet. It is slightly prickled over the stem. The leaves have an acid taste, and are used as a pot herb.

There is a dark purplish coloured species, the leaves of which are used for a similar purpose; they are both grown all the year round, and sold at five seers for one pice.

Propagated by seed, and grown in any common garden soil.

BAUJERA.—Holcus Spicatus. This is a very common grain, not so heating as Jawarie, and may be made into cakes or porridge. Sown in fields at the commencement of the rains.

BAKLA ZUN.—Phaseolus Vulgaris.—Kidney Bean, dwarf. *See Beans.*

BAKLA.—Vicia Faba.—Garden Bean. This is cultivated at the same season and manner as the kidney.

BHANG-U-GUNDUNA.—Allium Tuberosum.—Indian Chive. This very much resembles the English chive; it is grown in square beds or rows and should be planted at the close of the rains; it is easy of culture either by slips or dividing the roots; it should be set about twelve inches apart, and when the bunches have increased to a large size, must be again divided.

It is used in various ways for the table.

BHENDEE.—Hibiscus Esculentus.—Bandaykaye. This plant is very common; the long capsules, when green, are used for various purposes, either boiled whole and eaten or sliced and put into soup or curries; the inside is of a slimy consistency, but, when dressed, not unpleasant. The seed is sometimes laid upon toast with butter, pepper and salt. Another species, the Okro, has a smaller capsule which grows upright, the seeds when rubbed between the fingers have a strong scent of musk; the Arabs flavour their coffee with it.

BOODUNK.—Mentha Pulegium.—Penney Royal. Cultivated the same as thyme.

BOORUNK KALA.—Ocymum Basilicum.—Sweet Basil. Grows

common in native gardens; the seeds are used medicinally an infusion being considered very cooling.

Boota.—Zea Mays.—Maize. Grown at the commencement of the rains and sown in beds or in the common fields; it requires little care; the heads are either boiled or roasted before eaten. The ground should be well manured before the seed is sown.

Brinjals or Baynegun.—Solanum Melongena.—Egg plant. There are several varieties of this plant—a large round-shaped fruit, both purple and white; another, white, thin and long; a smaller species again, pear-shaped, red and purple striped; and one seldom exceeding the size of an egg. They are all dressed alike and used both in curries and other native dishes.

Propagation—by seed, at the commencement of the rains. The young plants are placed at about eighteen inches apart and require watering every third or fourth day; they are sold from one to three pice a seer.

Bukum.—Cœsalpinia Sappan.—Narrow-leafed Brasiletto. This is a common shrub in most parts of India; the seed is used for colouring milk, and the wood as a red dye.

Bullur.—Var: of the Dolichos Lablab.—Small Bean. This is a shrubby plant, bearing a small bean, sown in June and ripe in October; it is boiled plain and eaten, or put into curries; the natives also give it to cattle.

Bunburbuttee.—Phaseolus Lunatus.—Duffin Bean. Sown in rows the same as other beans, but with a much greater space between; they require very strong sticks for support, and are ready in about six months. No very particular care is necessary.

Burrie Toovar.—Cytisus Cajan.—Large Dhal. This is sown in fields at the commencement of the rains in June and sometimes much later; it is ripe in December. The seeds are sometimes ground into flour or split like dry peas: for

the latter they are an excellent substitute. There are several varieties, which sell from 30 to 40 seers for the Rupee.

BUTANEE—Pisum Sativum.—Common Pea. The native country pea is sown after the rains in drills, and varies in price according to the quality; when green they are tolerable as a vegetable, but are best in soup. Procurable in December and January.

CHEENA.—Cicer Arietinum.—Chick Pea or Gram. Grown in fields and sown after the rains. Price various.

CHOOLAEE.—Amaranthus Polygamus.—Common Bajee. Much cultivated by the natives. It is sown broad-cast in beds from June to March. The leaves are sold in the bazaar at one pice the seer. Used as a greens and also in curries.

CHUCHOONDA.—Tricosanthes Anguina.—The Snake Gourd. This is sown in the rains, and grown generally over a high pandall, that the fruit may have space to hang down from; a small stone or weight is then tied to the end to increase its length, which varies from a foot and a half to three feet or more. Raw, it resembles a cucumber in flavour, but is better dressed in a stew or curry.

CH'HOTA KULPA.—Borago Indica.—Indian Borage. This is a common plant, and grows wild in many parts.

CHOTIE SAYME KE PULLIE.—Dolichos Lablab.—Native Bean. This is a smaller species of the Dolichos Lablab; the legume and seeds are both eaten; it is sown in the rains and sells from one pice to two a seer.

CHOOLAEE.—Spinacia Tetrandra.—Spinach Tetrandous. This is a common sort of native greens, and, when boiled, resembles spinach; it is procurable nearly all the year round.

CHOOKEH.—Rumex Vesicarius.—Sorrel. This is also of common native growth, and where water is abundant may be had for eight months in the year; it is sown in drills or on the edges around other beds; the leaves are sold in

bundles, from one to two pice a seer. There is also another species called the Indian Red Sorrel.

CHUCKOONDA.—Beta Vulgaris.—Common Beet. This is the common beet.

CHOOPREE ALOO.—Tubers roundish, very large white inside and much esteemed; the skin thin and smooth like a potato. The stems require strong sticks to creep over; it bears a large roundish fruit, like an oak apple in appearance, which is also edible.

DARCHEENEE.—Laurus Cinnamomum.—Cinnamon. This is brought from Ceylon and the Spice Islands.

DHAN OR CHOUL.—Oryza Sativa.—Rice. Is so common as not to need any description here.

DHUNEEA.—Coriandrum Sativum.—Coriander seed. This is also imported.

DILL PUSSUND.—Cucurbita Lagenaria.—Small Pumpkin. This is a small species of round squash or gourd, and is grown in the bed of rivers with the melons; it much resembles, when dressed, the vegetable marrow, and is thought by some to be even superior.

ERVIE.—Caladium Esculentum.—Urvie. This is a small bulbous root sown from March to July, in rows or beds, mostly along a water course where ginger is planted. It requires much water, and takes from six to seven months to ripen. When boiled and then roasted it is very wholesome and somewhat resembles a yam in taste; the natives also put it into curries.

GAJUR.—Daucus Carota.—Carrot.

GUNDUNA.—Allium Porrum.—Leek.

GURANYO ALOO.—Dioscorea Rubella.—Red Sweet Yam. This is oblong and red skinned root tuberous, deeply tinged with red under the skin, but the colour does not penetrate

deep; they are sometimes as much as three feet long in a rich light soil.

Guranyo Aloo Lal.—Dioscorea Purpurea.—Purple Yam. Root oblong; throughout of a lighter or dark purple, but always considerably deep in tinge. This colour is permanent.

Zemmy Kund.—D. Atro Purpurea.—Another species. Tubers subrotund purple throughout, very large, of an irregular, smooth, roundish shape, and growing near the surface, so as to appear in dry weather through the cracks they make by raising the soil over them.

Huldee.—Curcuma Longa.—Turmeric. There are four species of this plant, one a small and very fine sort; the other longer and coarse; the third the Ambie used chiefly as medicine, the fourth a wild species. That which is cultivated for domestic culinary purposes is sown in beds like ginger, and when ripe in twelve months, taken up and dried. It is extensively cultivated in most parts of India, and sells, green, from eight to eighteen seers the rupee.

Huleem.—Arabis Chinensis.—Cress. Described elsewhere.

Illachee.—Elettaria Cardamomum.—Cardamum. This specie is also imported.

Ipar.—Thymus Vulgaris.—Thyme. Elsewhere described.

Jaworie.—Holcus Saccharatus. Grown in fields and sown during the rains; it is the common food of the poorer classes, made when ground into cakes.

Kala Kustoorie.—Abelmoschus Moschatus.—Musk Okro. *See Bheendie.*

Kalee Seem.—Stizolobium Altissimum.—Assam Bean. this bean is grown like most others, and may be first sown at the commencement of the rains and continued during the cold season.

Kalee Tulsee.—Ocymum Sanctum.—Basil. This is grown

chiefly grown in the upper parts of Hindoostan; it is eaten by the natives dressed in various ways.

MOONG P'HULEE.—Arachis Hypogæa.—Earth-nut. This is grown under ground, the legumes of which contain the nuts; they are small and white, and require to be roasted before eaten; they are not in much esteem.

MUKHUM SEEM.—Dolichos Gladiatus.—Sabre Bean. This is a large kind of bean, sown at the same time as others; it requires strong support to run over. The beans are dressed as French beans but are not so tender.

MIRCHEE.—Capsicum Frutescens. Capsicum. *See Capsicum.*

MUTKE KE PULLIE.—Dolichos Fabæformis.—Small Sabre Bean. This is grown the same as the larger sort.

NURCHA.—Corchorus Olitorius.—Sag Greens. These greens are common amongst the natives; it is an erect growing plant, and flowers at the close of the rains.

PALUK SAG.—Beeta Bengalinenses.—Bengal Beet. The leaves only of this vegetable are eaten; when boiled it resembles spinach in flavour. The roots are tough and stringy. It may be sown in beds or rows. The leaves shoot out again after being cut down.

PAN.—Piper Betel.—Betel Pepper. This is cultivated in spots by itself; it requires much water and care, and is too well known to need any further description here. The leaves are eaten raw.

PEEAJ.—Allium Cepa.—Onion. *See Onions.*

PEEAZ.—Allium Ascalonicum.—Shallot. This is cultivated in a light rich soil, and propagated by dividing the clustered roots; it should be sown in beds at the commencement of the rains, and will give a crop during the cold weather.

PENDALOO.—Dioscorea Aculeata.—The Small Yam. This is a very valuable and delicate root, somewhat resembling the

sweet potatoe in appearance; tubers of an oval form and very white, generally weighing about two pounds.

PHOOT. — Cucumis Momordica. —Field Cucumber. A wild species of cucumber sown generally in the fields amongst Jaworie, and is something between the melon and cucumber; it keeps for a long time if not too ripe and would be valuable as a store vegetable for sea.

PIPILIE.—Piper Longum.—Long Pepper. This is a creeper of easy culture and should be trained on poles, or have strong sticks to grow upon. It is common in all parts of India.

POODEENA.—Menthœ Verticulata.—Mint. *See Mint.*

POEE.—Basella Alba et Rubra.—Malabar Nightshade. This is a twining, succulent plant, with smooth fleshy leaves; it grows very rapidly and is generally cultivated as a spinach. There are two sorts.

PULWUL.—Trichosanthes Dioica.—Dioceous Snake Gourd. This is one of the snake gourd species, of a small description, the size of an egg; the seed is sown in the cold season and yields fruit from March to September.

PULPUL.—Myrtus Pimenta.—Allspice. This is imported.

RAI.—Sinapis Trilocularis.—Mustard. *See Mustard.*

SALBEA.—Salvia Officinalis.—Sage. *See Sage.*

SHULGUM.—Brasica Rapa.—Turnip. *See Turnip.*

SONF.—Anethum Panmori.—Sweet Fennel. *See Fennel.*

SAYME KE PULLIE.—Dolichos Lablab.—Native Bean. This bean is sown in the fields like all others in rows, and are eaten both boiled or put into curries.

SAYME KE PULLIE LAL.—Dolichos Lablab Rub.—Native Bean, red. This bean when young, is eaten pod and all; when full grown, the seeds only are used. It is about five inches long and has got its name from the reddish colour of its edges.

SOOT'HNEE.—Dioscorea Fasiculata.—Yam. Consists of many tubers, about the size and shape of an egg. They are covered with a light coloured thin skin; internally they are white. They are not only eaten, but starch is made from the roots.

SUKUR KUND.—Convolvulus Batata.—Sweet Potatoe. A sweet-tasted nutritious root, of which there are two sorts, red and white. The tubers are long, and, when boiled or roasted, very wholesome. They are sown precisely in the same manner as a potatoe, after the hot season, and are fit to be taken up in six months. They sell from two to four pice a seer.

SUFED TULSEE.—Ocymum Alba.—White Basil. Chiefly grown in native gardens.

SUFURA KOOMRA.—Cucurbitis Ovifera.—Vegetable Marrow. *See Vegetable Marrow.*

THURBOOJ.—Cucurbita Citrullus.—Water Melon. This is grown in the bed of rivers in the hot season, but may be cultivated in gardens during the rains.

ZEERA.—Cuminum Cyminum.—Cummin Seed; black and white. This is grown in beds the same as the coriander; the seeds are used for seasoning curries. Much is brought from China and the Persian Gulph.

ZURUMBAD.—Curcuma Zerumbet.—Zeodary; 4 sorts.—*See Huldee.*

NATIVE VEGETABLES, GREENS, ETC.

WHEN PROCURABLE IN THE DECCAN.

Ambarie, procurable all the year round.
Beindee, September to March.
Brinjals, ditto ditto.
Ballar, sown in June, ripe in October.
Bhoe, September to January.
Chooka, from June to March.
Chowlie, sown in June, and ripe from September to January.
Choukundar, from May to January.
Chundorie, to be had all the year round.
Chankoorah, or Pothee, from March to July.
Chundan Butwar, to be had all the year round.
Chul, ditto ditto.
Chackoondra, April to July.
Dill-pussund, ditto ditto.
Gajur, from October to June.
Gownwhar ka phull, do. ditto.
Good Alloe, January to June.
Gurrieg phull, October ditto.
Huldie sown in June, remains twelve months.
Hudgar, from September to February.
Kurralah, August to March.
Kumruck ka pullie, September do.
Kura, September to November.
Kuckrie, March to July.
Kutchna, during the cold season.
Kuldie, or Kuddar, September to March.
Karmonie, September to January.

Kotemeer, sown in September, and ripe in three months.
Lussun, September to January.
Mooringa, the pods are procurable almost all the year.
Maut ka bajee, all the year round.
Matheo and Mathar, ditto ditto.
Mirchie, from July to April, but procurable all the year.
Peeaz, all the year round.
Pend Allo, sown at almost all seasons of the year, chiefly in the rains.
Poot, from July to January.
Pookelah, from July to April.
Poee or Butchlar, during the rains and cold season.
Ruthree ka bajee, ditto ditto.
Raje Gurah, ditto ditto.
Rut Alloe, ripe from December to April.
Shulgum, August and September, and from January to March.
Seo Pollok, September to July.
Sonf do., procurable during the rains and cold season.
Same ke pullie, September to March.
Saymee, or Sayndah, from September to January.
Sursoh, all the year.
Sooriakhund, in the cold season, two sorts, bitter and sweet.
Soorie, common in pawn gardens.—See medicinal qualities.
Soorun, after the rains.
Turrie, at all seasons.
Thur Kukrie, April to July.
Thurbooj, April to September.
Thuzzotals, during the rains and cold season.
Urvie, September to January.
Udruck, sown from March to July, and ripe in nine months.
Wachvee, during the rains and cold season.

INDEX

OF

ANNUAL, BIENNIAL, AND PERENNIAL, FLOWER-PLANTS.

The following are best known by the English names, but as the Scientific names are requisite to show the genus to which they belong, they are also given. Such popular names as Convolvulus Minor, Flos Adonis, &c, have no affinity with the Latin, and are not to be considered as translations.

1st Column.—Hardiness and Duration of each plant.

2nd Ditto.—Colour of Flower.

3rd Ditto.—Height.

4th Ditto.—Price.—Packets may also be had of those marked 3*d*, of James Carter, Seedsman and Florist, 238 High Holborn, London; also of Minier, Adams and Nash, 63 Strand: and should instruments such as saws, pruning-knives, &c., &c., be required, I would recommend Mr. Weiss of the Strand.

A—is employed to indicate varieties.		H. & Dur.	Col. of Fl.	Hight.	Price.
				feet.	*s.* *d.*
Aster Chinese, m ...	Aster Sinensis, pl. var...	hha.	div.	2	3
Quilled (German)...	—— Fistulosus, 20 v..	—	—	—	6
—— Dark blue ...	—— Atro-cærùleus ...	—	d. b.	—	3
—— Light blue ...	—— Læte-cærùleus..	—	l. b.	—	3
—— Dark red. ...	—— Atrorùbens	—	d. r.	—	3

A—IS EMPLOYED TO INDICATE VARIETIES.		H. & Dur.	Col. of Fl.	Hight.	Price.
				feet.	s. d.
Jacobæa, White.. ..	Senécio Alba.	—	wh.	—	3
......	Nos. 925 to 931. ...	—	div.	—	2 0
Larkspur, Dwarf m ..	Delphínium Ajàcis. ...	ha.	—	1	3
Dwarf, German ..	Hùmile pl. var. ...	—	—	—	6
—— Blue	—— Cæleste. ...	—	bl.	—	3
—— Rose	—— Ròseum... ..	—	rose.	—	3
—— White .. .	—— Album. ..	—	wh.	—	3
—— Unique	—— Bicolor. ..	—	r. & w.	—	3
Larkspur, Tall m ..	Elàtior, pl. var. ..	—	div.	1½	3
Tall German ..	Elàtior, var.	—	—	—	6
—— Blue	—— Cærùleum....	—	bl.	—	3
—— Rose	—— Ròseum.... ...	—	rose.	—	3
—— White ..	—— Album. ..	—	wh.	—	3
Branching Ger	Consòlida, pl. var. ...	—	div.	2	6
—— Blue	—— Cæleste.	—	bl.	—	3
—— Rose	—— Ròseum.	—	rose.	—	3
10 fine var. sep ..	......	—	div.	—	2 0
Lavatera, Red	Lavatèrà Trimestris. ...	ha.	rose.	3	3
—— White	—— Alba.	—	wh.	—	3
Love-lies-bleeding ..	Amaranthus Caudàtus...	—	red.	tr.	3
Lupins, white	Lupìnus Albus. ...	—	wh.	2	3
Dutch Blue ...	Canaliculàtus. ...	—	bl.	—	3
Large Blue	Hirsùtus.	—	—	—	3
Large Rose ...	Pilòsus.	—	rose.	—	3
Yellow.	Lùteus.	—	yel.	1½	3
Straw-coloured ...	—— Straminèus....	—	str.	—	3
Mixed.	......	—	div.	2	3
Mallow, 5 var. sep...	Malva pl. sp. et. var...	—	—	—	1 0
Marigold, French, m ...	Tagètes pátula, 10 var.	hha.	—	1½	6
French, Dwarf. ...	——Hùmilis.	—	—	1	3
—— Superb Striped.	——Striàta Superba..	—	str.	1½	6
—— Quilled ..	——Fistulósa.	—	div.	—	3
—— African, m...	Erecta, pl. var ...	—	y. & o.	2	3
—— Lemon ..	—— Citrina ...	—	lem.	—	3
—— Orange	—— Aurantìaca ...	—	or.	—	3
—— Quilled ..	—— Fistulòsa ...	—	y. & o.	—	3
Cape...	Calendula Pluviàlis ...	ha.	wh.	1	3
Hybrid	Hybrida	—	—	—	3
Double, Pot ...	Officinàlis, fl. pl. ..	—	yel.	—	3
Marvel of Peru ...	Miràbilis Jalápa ...	hhp.	div.	3	3
Purple	—— Purpúrea	—	pur.	—	3
Red	—— Rúbra	—	red.	—	3
Striped, 3 var ...	—— Striàta ...	—	stri.	—	3
Yellow	—— Flàva	—	yel.	—	3
White	—— Alba	—	wh.	—	3
Long-flowered ...	—— Longiflòra	—	—	—	3
12 Fine var. mix ...	......	—	div.	—	1 0
Mignonettee, lb. 8s. ...	Resèda Odoràta, oz 6d	ha.	buff.	1½	3
Monkshood, mixt ...	Aconìtum, pl. sp	hp.	b. & w.	2	3
Nasturtions, Tall	Tropæolum Màjus ...	ha.	o. & y.	cl.	3
New Carmine. ...	—— Miniàtum	—	car.	—	3
Dark Red ...	—— Atrosanguìneum ...	—	d. r.	—	3

A—IS EMPLOYED TO INDICATE VARIETIES.		H. & Dur.	Col. of Fl.	Hight.	Price.
				feet.	s. d.
Nasturtions, Shillingi ...	Tropæolum Shillingii.	—	spot.	—	3
Three-spotted ...	—— Trimaculàtum ...	—	—	—	3
New Dwarf... ...	—— Minus ...	—	s. & o.	—	3
Common Dwarf...	......	—	or.	—	3
Palma Christi	Ricinus Májor	hha.	gr.	6	3
Pea, Tangier	Làthyrus Tingitànus	ha,	sc.	4	3
New Striped	—— Striàtus Nòvus....	—	str.	—	3
Sweet, m. lb. 4s...	Odoràtus, fl. var	—	div.	—	3
Black	—— Niger	—	bla.	—	3
Painted Lady ...	—— Pictus	—	var.	—	3
Purple	—— Purpùreus	—	pur.	—	3
Scarlet	—— Coccineus	—	sc.	—	3
Striped	—— Striàtus	—	str.	—	3
White	—— Albus	—	wh.	—	3
Persicaria, Red	Polygonum Orientàle....	—	red.	6	3
White	—— Album	—	wh.	—	3
Mixed	......	—	r. & w.	—	3
Polyanthus, ex. fine ...	Primùla Elàtior, var ...	hp.	div.	½	6
Poppy, Double, m. ...	Papàver Somnìferum..	ha.	—	2	3
Double Black	—— Nìgrum....	—	bla.	—	3
—— Carnation ...	—— Caryophylloìdes..	—	var.	—	3
—— Fringed ..	—— Fimbriàtum ...	—	div.	—	3
—— Himelayan ..	—— Himelayanum...	—	—	—	3
—— Scarlet ..	—— Coccíneum ...	—	sc.	—	3
—— Striped Rose ...	—— Ròseum Striàtum...	—	rose.	—	3
—— Striped Red	—— Rùbrum striàtum.	—	red.	—	3
—— White... ...	—— Album	—	wh.	—	3
French Double ..	Rhæas, fl. plèno. ..	—	div.	1	3
—— Bordered. ...	—— Limbàtum	—	red.	—	3
—— Striped...	—— Striàtum	—	str.	—	3
Nos. 1001 to 1012 ...	....	—	div.	—	3 0
Primrose, mixed ...	Prìmula Vulgàris	hp.	—	½	3
Princes Feather	Amaranthus Hypocon..	ha.	pur.	2½	3
Quaking Grass. ...	Brìza Maxima....	—	gr.	1½	3
—— Grass, Slender.	Brìza Gràcilis.	ha.	gr.	1	3
Rocket, Purple	Hesperis Matronàlis	hp.	pur.	—	3
Sweet.	Tristis	—	wh.	—	3
Scabious, Dwarf	Scabiòsa Nána ..	ha.	div.	—	3
Very Dark	Atropurpùrea ...	hp.	pur.	2	3
Splendid Ger	—— Superba	—	div.	—	6
Scotch Thistle	Carduus, sp.	—	pur.	8	6
Sensitive Plant	Mimósa Sensitíva	fgh.	pink	2	6
Spanish Broom	Spartium Junceum ...	hp.	yel.	3	3
Snapdragon, m	Antirrhínum Majus ...	hp.	div.	2	3
Splendid m 40 var...	....	—	str.	—	6
Carnation	—— Caryophylloìdes....	—	—	—	3
—— Yellow	—— —— Lùteum ...	—	—	—	6
Four-coloured ...	—— Quadricolor	—	4 col.	—	6
Orange	—— Aurantiacum.	—	or.	—	6
Pale-yellow	—— Ochroleucum ...	—	p. y.	—	3
Painted	—— Pictum	—	var.	—	3
Scarlet	—— Coccíneum	—	sc.	—	3

A—IS EMPLOYED TO INDICATE VARIETIES.		H. & Dur.	Col. of Fl.	Hight.	Price.
				feet.	s. d.
Snapdragon, White.	Antirrhinum Album.....	—	wh.	—	8
Yellow	—, Flávum	—	yel.	—	8
Nos. 1027 to 1036.	....	—	div.	—	8 0
Stock, 10 week, m...	Mathìola Annua ...	hha	—	1½	3
Scarlet....	—— Coccìnea	—	cr.	—	3
Intermediate ...	—— Intermédia	—	—	—	3
Large Scarlet	—— Major	—	—	2	3
Purple	—— Purpurea	—	pur.	1½	3
White	—— Alba	—	wh.	—	8
Stock, Grem, 20 v....	Mathìola Annua, var. ...	—	div.	1	6
Large Packet	....	—	—	—	1 0
Dwarf Carmine ...	Densiflórà, min ...	—	ver.	—	6
—— Dark Carmine.	—— Atro-Miniàta.	—	d. v.	—	6
—— Crimson ...	—— Kermesìna. ...	—	cr.	—	6
—— Dark Crimson	—— Atrorùbens	—	d. c.	—	6
—— Dark Blue ...	—— Atro-cærùlea ...	—	d. b.	—	6
—— Lilac	—— Lilacìna. ...	—	li.	—	6
—— Light Blue	—— Læte-Cærúlea...	—	l. b.	—	6
—— Peach-bloss ...	—— Persiciflóra.	—	p. bl.	—	6
—— Rose coloured	—— Ròsea ...	—	rose.	—	6
—— Yellow	—— Lútea	—	yel.	—	6
—— Violet	—— Violácea ...	—	vio	—	6
—— White ...	—— Alba	—	wh.	—	6
Nos. 1046 to 1057...	....	—	div.	—	5 0
Stock, Prussian, m	Græca (Cheirifòlia...	—	—	—	3
Purple.... ...	—— Purpùrea ...	—	pur.	—	8
Scarlet	—— Coccìnea ...	—	cr.	—	3
Rose	—— Ròsea	—	rose.	—	8
White	—— Alba	—	wh.	—	8
Autumnal	Autumnális	—	div..	1¼	6
Brompt., m.	Mathìo. Simplicicaulis ...	hb.	—	2½	3
Purple....	—— Purpúrea ...	—	pur.	—	3
Brompt., s.	Mathìo. Simplicicaulis.	hb.	cr.	2½	8
White...	—— Alba ...	—	wh.	—	3
Queen, m...	Mathiola Incana	—	div.	1½	3
Purple	—— Pùrpurea ...	—	pur.	—	3
Scarlet	—— Coccìnea	—	cr.	—	3
White	—— Alba... ...	—	wh.	—	3
Imperial.	Imperiàlis.... ...	hp.	d. bl.	—	6
—— Light Blue...	—— Læte-Cærùlea.	—	l. bl.	—	6
—— Red	—— Rùbra.	—	red.	—	6
—— Rose	—— Rósea.	—	rose.	—	6
Nos. 1078 to 1076.	......	—	div.	—	1 6
Sunflower, d. tall....	Helianthus Annuus. ...	ha.	yel.	6	8
Dwarf	Indicus....	—	—	3	8
Sweet Alyssum.	Alyssum Maritimum....	hp.	wh.	1	8
Sultan, p... ...	Centaurea Moschàta.	hha.	pur.	2	3
White.	—— Alba....	—	wh.	—	3
Yellow.	—— Suavèolens.	—	yel.	—	3
Venus's Looking-glass.	Campánula Spéculum. ...	ha.	bl.	¼	3
Rose.	—— Rósea..	—	rose.	—	8
White.	—— Alba	—	wh.	—	3

A—IS EMPLOYED TO INDICATE VARIETIES.		H. & Dur.	Col. of Fl.	Hight.	Price.	
				feet.	*s.*	*d.*
Venus's 5 var. separate....	... ...	—	div.	—	1	0
Navelwort. ...	Cynoglossum Linifolium.	—	wh.	1		3
Virg. Stock	Malcomia Marítima....	—	li.	½		3
White.	—— Alba ...	—	wh.	—		3
Wallflower, Dark ...	Cheiranthus Cheiri. ...	hp.	br.	2		3
Chameleon. ...	—— Variábilis. ...	—	var.	—		3
Purple.	—— Purpùrea. ...	—	pur.	—		3
Yellow.	—— Flàva.	—	yel.	—		3
Double German. ...	Flòre.Plèno... ...	—	div.	—		6
—— Black Brown.	—— Nigrescens ...	—	d. br.	—		6
—— Blue. ...	—— Cærùlea. ...	—	bl.	—		6
—— Large-flower	—— Grandiflora. ...	—	br.	—		[illegible]
—— Pyramidal....	—— Pyramidàlis. ...	—	—	—		6
20 var. mixed ...	... ...	—	div.	—		6
Winter Cherry	Physalis Alkakengi. ...	ha.	wh.	2½		3
Xeranthemum, p. ...	Xeronthemum. Annuum.	—	pur.	1½		3
White.	——Album.	—	wh.	—		3
Yellow.	Elichrysum Bracteàtum.	hha.	yel.	2		3
New White. ...	—— Album Nóvum. ...	—	wh.	—		3
Splendid. ...	——Splendens.... ...	—	var.	—		3
Zinnia, golden yel. ...	Zínnia Aurea.	—	yel.	—		6
Large-flowered ...	Grandiflóra.	—	red.	—		3
Mixed.	... ...	—	r & y.	—		3

CATALOGUE OF SEEDS.

ASSORTMENTS OF FLOWER SEEDS.

h, *hardy*; hh, *half hardy*.

	s.	d.
16 Fine var. Calliopsis, hha. -	1	6
17 „ „ Clarkia, ha. -	1	6
6 Everlasting Flowers, hha. -	1	6
6 Fine Linária, ha. - -	1	0
6 „ Nemóphila, ha. - -	1	6
8 „ Œnothéra & Godétia, ha.	1	6
6 „ Lobélia, hh. - -	2	0
6 „ Marigold, hha. -	1	6
8 „ Schizanthus, ha. - -	2	0
4 „ Sweet William, hp. -	1	6
6 „ Wallflower, hp. - -	2	0
50 Finest hp. Annuals, 10*s.*; 25	5	0
50 „ h. do. 20*s.*; 25	10	0
50 Fine h. perennials, 10*s.*; 25	6	0

The selection of the above must be left entirely to J. C.

FRUIT SEEDS—*per Packet.*

	s.	d.
Currants, red, white, and black.		6
Gooseberry, finest mixed. -		6
Melon, Beechwood, extra fine. -	1	0
— Carter's green flesh. -	1	0
— Early Cantalupe. - - -		6
— Evans' scarlet flesh. -	1	0
— Green flesh, fine. - -		6
— Hardiest early Cantalupe.		6
— Netted Persian. - - -		6
— Pekin, new and extra fine.	1	6
— Scarlet flesh. - - -		6
— Snow's Prolific. - - -	1	0
— Sweet, of Ispahan. - -	1	0
— Terry's green flesh, extra.	1	0
— Windsor Prize, fine. - -	1	0
— Fine mixed Melon. - -		6
— 12 fine other var. separate. -	5	0
Mulberry, 3 fine species. -	1	0

	s.	d.
Quince. - - - - - -		6
Raspberry, red and mixed. -	1	0
Strawberry, red and white alpine.	1	0
— British Queen. - - -	1	0
— Various fine sorts mixed. -	1	0
— Finest mix., for preserving. -		6
Water Melon, fine mixed. -		6

FLOWERING BULBS.

	s.	d.
Achímenes, 12 in 4 fine sorts. -	2	6
Amaryllis Bella-Donna, each -	1	0
— Formosissima. - - -		6
— 3 Greenhouse sp., each 3*s.* 6*d* for. - - - - - -	10	0
— 2 Species, South America, each. - - - - -	3	0
Ammochâris corânica. - -	4	0
— Falcâta, 4*s.*; glauca. - -	4	0
Anemones, finest new dou. per lb.	7	0
— 100 finest new var. separate.	25	0
— 50 do. 12*s.* 6*d.*; 25 do. -	7	0
— Fine mixed new single per lb.	4	0
Arum, fine new sp. Bolivia, each.	5	0
Dahlia, extra, fine double, per doz.	15	0
Gladíolus oppositiflórus, new v. „	2	0
— Psittacinus (natalensis) - „	1	6
— Superbus (gandivensis) each	2	0
Lílium lancifólium, rubrum - „	10	6
— Album. - - - - -	5	0
Pancrátium illyricum. - -	1	6
Ranunculus, finest mixed, per 100	7	6
— 100 in 100 ext, fine var. named. - - - - -	20	0
— 50 do. do. 10*s.*; 25 do. do. -	5	0
— Mixed Turban Ranunc. per 100	5	0
Tigrídia Pavónia, 1*s.* 6*d.* v. large, doz. - - - - -	2	6
— Conchiflóra, yellow. - doz.	6	0
— Superba, scarlet. - - „	18	0
Tuberoses, double Italian. „	4	0

KITCHEN GARDEN SEEDS.

WARRANTED GENUINE.

oz. ounce; lb. pound; qt. quart.	Price. s.	d.
Artichoke, green - - per oz.		9
Purple - - - „		9
Asparagus, giant, oz. 2*d.* per lb.	2	6
Beans early Mazagan, per quart.		6
Early dwarf Fan- - „		6
— Long-pod - - „		6
— Lisbon's do. - „		6
Johnson's Wonderful „		6
Sword long-pod- - „		6
Green long-pod - „		6
Large Windsor- - „		8
— New thick do - „		8
— Taylor's do - „		8
— Green do - „		8
Beet, fine large red, per ounce.		3
New German - - „		6
New black - - „		6
New dark crimson - „		6
Green - - „		3
Silver-stalked - - „		3
White - - - „		3
Silesian sugar - per lb.	2	0
Borecole, or Kail, brown per ounce. - - -		3
Green curled dwarf - „		3
Curled tall - „		3
New Asparagus - „		6
Buda - - - „		6
Variegated, &c. &c. - „		6
Broccoli, ear. pur. Cape- „	1	6
White Cape - - „	1	6
Green Cape - „	1	6
Early Cauliflower - „	1	0
— Close-headed „	1	0
— Malta - - „	1	0
— October - - „	1	6
— Purple - - „	1	0
— Sprouting - „	1	0
— Walcheren - - - „	2	0
— White - - „	1	0
Adams' new dwarf - „	1	6

pa. packet; bush bushel.	Price. s.	d.
Broccoli, American - per oz.	1	6
Brimstone - - „	1	0
Chappel's cream - „	1	0
Dwarf Siberian - „	1	[illegible]
Ellison's new April „	2	[illegible]
Field's new white - „	1	6
Grange's early - „	1	6
Hampsh. gr. - „	1	6
Hampton Court - „	1	0
Howden's superb - „	1	6
Impregnated white per oz.	1	0
Invisible - - „	1	0
Knight's protecting - „	1	0
Lake's white - - „	1	0
Large Spring purple - „	1	0
—— White - „	1	0
Late close-headed p. - „	1	0
— Purple - - „	1	0
— White - - „	1	0
London, particular - „	2	6
Miller's late - - „	1	0
New Victoria - „	1	6
Portsmouth - - „	1	0
Potter's new pink - „	2	6
Snow's superb - „	1	0
Sulphur - - „	1	0
Very late Danish - „	1	0
White southampton „	1	0
Wilcox's large wh - „	1	0
8 best for succession „	8	0
4 do. do. - - „	5	0
Brussels sprouts, fine - „		6
Imported Belgian - „	1	0
Cabbage, Atkins' Match- „		6
Carter's Matchless - „	1	0
Early dwarf - - „		6
— Battersea - - „		6
— London Market- „	1	0
— Nonpareil - - „		6
— Sugar-loaf - „		6
— Wonder - „	1	0
— York - - „		6

oz. ounce; lb. pound; qt. quart.		Price. s.	d.
Cabbage Enfield, new early, per oz.		1	0
Large Battersea	„		6
— Imperial	„		6
— Pomeranian	„	1	0
— York	„		6
— Drumh., lb. 3s.	„		3
— Scotch, lb. 3s.	„		3
Paignton	„		6
Shilling's Queen	„		6
Spotboro' new	„	1	0
Vanack	„		6
6 finest for succession	„	3	6
Red Dutch	„		6
Dwarf red	„		6
Savoy, dwarf green	„		6
— Drumhead	„		6
— Globe	„		6
— Yellow	„		6
Couve Tronchuda	„	1	0
— New curled	„	1	0
Chou de Milan, imp.	„	1	0
Carrot, early Morn	„		3
Early scarlet frame	„		3
Long Surrey	„		3
— Orange	„		3
— New Brunswick	„		3
Altringham	„		3
White Belgium	„		3
Cauliflower, early Engl	„	1	6
Late English	„	1	6
— Asiatic	„	1	6
— Cyprus	„	1	6
Fitch's new late	„	2	6
Popart's early Engl	„	2	6
Late Dutch	„	1	6
Walcheren	„	1	6
Cardoon, Spanish	„		6
New large purple	„	1	0
Celery, soild white	„		3
Soild red	„		3
Giant red	„		4
Giant white	„		4
Jone's new Matchl	„		6
New curled Paw	„		4
Seymour's white	„		4
Wheeler's pink	„		6
Large-rooted	„		4

pa, packet; bush, bushel.		Price. s.	d.
Chervil, curled	per oz.		4
Corn Salad	„		3
Cress common	per quart.	1	0
Triple Curled	„	1	6
Golden	„	1	6
Perennial Amer.	per ounce.		3
Water-cress	per pa		6
Cucumber, fine frame	„		6
Fine long prickly	„		3
Fine Ridge	„		3
Short prickly	„		3
Turkey, wh. or gr.	„		3
Carter's Champion	„	1	0
Colney Hatch, ex.	„	1	0
Cuthill's blackspine	„		6
Finest Prize Varieties: Manchester Prize	„		6
Man of Kent	„		6
Roman Emperor	„		6
Sion House	„		6
Snow's white spine	„		6
Stewart's Ringleader.	„	1	0
Superb white spine	„	1	0
Victory of England	„	1	0
Walker's Superb	„	1	0
Weedon's frame	„		6
Young's Champion, &c.	„	1	0
Cucumbers, 6 finest varieties		5	0
Endive, green curled,	per ounce		6
White curled	„		6
Batavian, green	„		6
— white	„		9
New German	„		9
French beans, China dw.,	per qt.	1	3
Dwarf dun	„	1	3
Dark dun	„	1	3
— Fulmer's	„	1	3
— Negro	„	1	3
— Negro Major	„	2	0
— Speckled	„	1	3
— Turkey	„	2	0
Runners, scarlet.	„	1	3
— French Haricot	„	1	6
Painted Lady	„	1	6
Turkey	„	2	0
Ice plant, garnishing	per pa.		3
Indian Corn	„		3
Leek, London, Flag	per ounce		6
New Giant.	„	1	0

oz. ounce; lb. pound; qt. quart.		Price. s.	d.
Lettuce, Cos, Ady's	per oz.	1	0
Cos, Artichoke-leav.	,,	1	0
— Bath.	,,	1	0
— — Bl. seeded do.	,,	1	0
— — Broad leav. do.	,,	1	0
— Brighton	,,	1	0
— Brown	,,	1	0
— Egyptian	,,	1	0
— Florence	,,	1	0
— Green	,,	1	0
— Kensington	,,	1	0
— Nonpareil, w.	,,	1	6
— Nonpareil, gr.	,,	1	6
— Paris	,,	1	0
— Snow's matchl.	,,	1	6
— White	,,	1	0
— White winter	,,	1	0
Cabbage, wh.	,,		6
— Asiatic	,,	1	0
— Brown Dutch	,,		6
— Drumhead	,,	1	0
— Hardy Hammers	,,		6
— Malta	,,	1	0
— Marseilles	,,	1	0
— Mogul	,,	1	0
— New Winter	,,	1	0
— New pink edged	,,	1	0
— Tennis ball	,,	1	0
Silesian, brown	,,	1	0
— White	,,	1	0
8 Finest sorts	,,	7	0
Love Apple or Tomato	,,	1	0
Yellow	,,	1	0
Mallow, garnishing	pa.		3
Mustard, white	per qt.	1	0
Onion, blood-red	per oz.		6
Deptford	,,		6
Glope	,,		6
— New white	,,		9
James' keeping	,,		9
Lisbon	,,		6
New Giant	,,		9
Pickling	,,		9
Portugal, white	,,		6
Reading	,,		6
Silver-skinned	,,		9
Spanish, white	,,		6
— Brown	,,		6

pa packet; bush. bushel.		Price. s.	d.
Onion, Strasburg	per oz.		6
Tripoli large	,,		9
Two-bladed early	,,		6
Welch	,,		6
6 Finest sorts, 2 ounces	ea.	7	0
Parsley, extra curled	,,		3
Myatt's garnishing	,,		4
Large-rooted	,,		4
Parsnip, best large	,,		3
Peas, early Kent	per qt.		8
Early frame	,,		8
— May	,,		8
— Prince Albert	,,	1	0
— Shilling's Grotto	,,	1	0
— Race-horse	,,		9
— Warwick	,,		9
— Charlton, 2d early	,,		8
— Bishop's dwarf	,,	1	0
— Champion of England	,,	5	0
Later sorts	,,		
Carter's Lilliputian	,,	2	6
— New Colossus	,,	1	6
— Victoria	,,	3	0
Glory of England	,,	1	0
Marrow, dwarf wh.	,,		9
— Dwarf green	,,		9
— Tall white	,,		9
— Tall green	,,		9
Woodford's green	,,	1	6
Victoria	,,	1	0
Knigh's marow, d.	,,	2	0
Matchless Marrow	,,	1	0
Bedman's Imperial	,,	1	0
Groom's superb	,,		9
Prussian blue	,,		8
Queen of the dwarfs	,,	2	6
Scimitar	,,	1	0
10 best for succession	,,	15	0
Potato early	per pa.	1	0
Late	,,	1	0
Silver-skin Dutch	,,	1	0
Purslain, gr. or gold	per oz.		6
Radish, long frame	per qt.	2	0
Wood's new frame	,,	2	6
Early Scarlet	,,	2	0
Early short topt	,,	2	0
Rong Salmon	,,	2	0
White Naples	,,	2	6

oz. ounce; lb. pound; qt. quart.		Price. s.	d.
Cabbage Enfield, new early,	per oz.	1	0
Large Battersea -	„		6
— Imperial - -	„		6
— Pomeranian -	„	1	0
— York - -	„		6
— Drumh., lb. 3*s.* -	„		3
— Scotch, lb. 3*s.* -	„		3
Paignton - -	„		6
Shilling's Queen -	„		6
Spotboro' new -	„	1	0
Vanack - - - -	„		6
6 finest for succession	„	3	6
Red Dutch - -	„		6
Dwarf red - -	„		6
Savoy, dwarf green	„		6
— Drumhead - -	„		6
— Globe - -	„		6
— Yellow - -	„		6
Couve Tronchuda -	„	1	0
— New curled - -	„	1	0
Chou de Milan, imp.	„	1	0
Carrot, early Morn -	„		3
Early scarlet frame -	„		3
Long Surrey - -	„		3
— Orange - -	„		3
— New Brunswick -	„		3
Altringham - -	„		3
White Belgium- -	„		3
Cauliflower, early Engl -	„	1	6
Late English - -	„	1	6
— Asiatic - -	„	1	6
— Cyprus - -	„	1	6
Fitch's new late -	„	2	6
Popart's early Engl -	„	2	6
Late Dutch - -	„	1	6
Walcheren - -	„	1	6
Cardoon, Spanish - -	„		6
New large purple -	„	1	0
Celery, soild white -	„		3
Soild red - - -	„		3
Giant red - -	„		4
Giant white - -	„		4
Jone's new Matchl -	„		6
New curled Paw -	„		4
Seymour's white- -	„		4
Wheeler's pink - -	„		6
Large-rooted -	„		4

pa, packet; bush, bushel.		Price. s.	d.
Chervil, curled -	per oz.		4
Corn Salad - - -	„		3
Cress common -	per quart.	1	0
Triple Curled - -	„	1	6
Golden - -	„	1	6
Perennial Amer.	per ounce.		3
Water-cress -	per pa		6
Cucumber, fine frame -	„		6
Fine long prickly -	„		3
Fine Ridge - -	„		3
Short prickly -	„		3
Turkey, wh. or gr. -	„		3
Carter's Champion -	„	1	0
Colney Hatch, ex. -	„	1	0
Cuthill's blackspine-	„		6
Finest Prize Varieties: Manchester Prize -	„		6
Man of Kent.- -	„		6
Roman Emperor -	„		6
Sion House - -	„		6
Snow's white spine -	„		6
Stewart's Ringleader.	„	1	0
Superb white spine -	„	1	0
Victory of England-	„	1	0
Walker's Superb -	„	1	0
Weedon's frame -	„		6
Young's Champion, &c.	„	1	0
Cucumbers, 6 finest varieties	-	5	0
Endive, green curled,	per ounce		6
White curled -	„		6
Batavian, green -	„		6
— white - -	„		9
New German - -	„		9
French beans, China dw.,	per qt.	1	3
Dwarf dun - -	„	1	3
Dark dun - -	„	1	3
— Fulmer's - -	„	1	3
— Negro - -	„	1	3
— Negro Major -	„	2	0
— Speckled - -	„	1	3
— Turkey - -	„	2	0
Runners, scarlet. -	„	1	3
— French Haricot	„	1	6
Painted Lady - -	„	1	6
Turkey - -	„	2	0
Ice plant, garnishing	per pa.		3
Indian Corn - -	„		3
Leek, London, Flag	per ounce		6
New Giant. - -	„	1	0

oz. ounce; lb. pound; qt. quart.		Price. s. d.
Lettuce, Cos, Ady's -	per oz.	1 0
Cos, Artichoke-leav. -	,,	1 0
— Bath. - -	,,	1 0
— — Bl. seeded do. -	,,	1 0
— — Broad leav. do.	,,	1 0
— Brighton - -	,,	1 0
— Brown - - -	,,	1 0
— Egyptian - -	,,	1 0
— Florence - -	,,	1 0
— Green - -	,,	1 0
— Kensington - -	,,	1 0
— Nonpareil, w. -	,,	1 6
— Nonpareil, gr. -	,,	1 6
— Paris - -	,,	1 0
— *Snow's matchl.* -	,,	1 6
— White - -	,,	1 0
— White winter -	,,	1 0
Cabbage, wh. - -	,,	6
— Asiatic - -	,,	1 0
— Brown Dutch -	,,	6
— Drumhead - -	,,	1 0
— Hardy Hammers	,,	6
— Malta - - -	,,	1 0
— Marseilles -	,,	1 0
— Mogul - -	,,	1 0
— New Winter -	,,	1 0
— New pink edged -	,,	1 0
— Tennis ball -	,,	1 0
Silesian, brown - -	,,	1 0
— White - -	,,	1 0
8 Finest sorts - -	,,	7 0
Love Apple or Tomato -	,,	1 0
Yellow - - -	,,	1 0
Mallow, garnishing -	pa.	3
Mustard, white - -	per qt.	1 0
Onion, blood-red -	- per oz.	6
Deptford - - -	,,	6
Glope - - -	,,	6
— New white - -	,,	9
James' keeping -	,,	9
Lisbon - - -	,,	6
New Giant - -	,,	9
Pickling - -	,,	9
Portugal, white -	,,	6
Reading - - -	,,	6
Silver-skinned -	,,	9
Spanish, white - -	,,	6
— Brown - -	,,	6

pa packet; bush. bushel.		Price. s. d.
Onion, Strasburg -	per oz.	6
Tripoli large. - -	,,	9
Two-bladed early -	,,	6
Welch - - -	,,	6
6 Finest sorts, 2 ounces	ea.	7 0
Parsley, extra curled -	,,	3
Myatt's garnishing -	,,	4
Large-rooted - -	,,	4
Parsnip, best large - -	,,	3
Peas, early Kent -	- per qt.	8
Early frame - -	,,	8
— May - - -	,,	8
— Prince Albert -	,,	1 0
— Shilling's Grotto	,,	1 0
— *Race-horse* - -	,,	9
— Warwick - -	,,	9
— Charlton, 2d early-	,,	8
— Bishop's dwarf -	,,	1 0
— Champion of England	,,	5 0
Later sorts - -	,,	
Carter's Lilliputian -	,,	2 6
— New Colossus -	,,	1 6
— Victoria - -	,,	3 0
Glory of England -	,,	1 0
Marrow, dwarf wh. -	,,	9
— Dwarf green -	,,	9
— Tall white - -	,,	9
— Tall green -	,,	9
Woodford's green -	,,	1 6
Victoria - - -	,,	1 0
Knigh's marow, d. -	,,	2 0
Matchless Marrow -	,,	1 0
Bedman's Imperial -	,,	1 0
Groom's superb -	,,	9
Prussian blue - -	,,	8
Queen of the dwarfs	,,	2 6
Scimitar - - -	,,	1 0
10 best for succession	,,	15 0
Potato early - -	- per pa.	1 0
Late - - - -	,,	1 0
Silver-skin Dutch -	,,	1 0
Purslain, gr. or gold	per oz.	6
Radish, long frame -	per qt.	2 0
Wood's new frame -	,,	2 6
Early Scarlet - -	,,	2 0
Early short topt -	,,	2 0
Rong Salmon - -	,,	2 0
White Naples - -	,,	2 6

oz. ounce; qt. quart.		Price. s. d.
Radish Red Turnip	per qt.	2 6
White Turnip	„	2 6
Mixed Turnip	„	2 6
New Olive	oz.	2
Spanish, black	„	2
Rampion, pa 3*d*	„	1 0
Rhubarb, Victoria	„	1 0
Tobolsk, &c. &c.	„	1 0
Salsafy	„	6
Scandix bulbosa, root	„	6
Scorzonera	„	6
Sea Kail	per qt.	2 0
Skirret	per oz.	8
Sorrel	„	6
Spinach round	per qt.	1 0
Prickly	„	1 0
Broad Flanders	„	1 0
New Zealand	per oz.	6

** Carter's Victoria Pea warranted superior in size and flavour to any other.*

Squash, fine mixed	per pa.	6
Turnip, early Dutch	per oz.	3
Early Mousetail	„	3
— Snowball	„	3
— Nonsuch	„	3
— Stone or stubble	„	3
— Large white	„	3
Yellow Altringham	„	3
— Maltese	„	3
— Stone	„	3
— Swedish	„	2
Teltau, German	„	6
Vegetable Marrow	per pa.	6

SWEET HERBS, &c.

pa. packet; bush. bushel.				Price. s. d.
Balm	per oz.	1*s.*	per pa.	3
Basil, sweet	„	1*s.*	„	3
Basil, Bush	per oz.	1*s.*	per pa.	3
Borage	„	6*d.*	„	3
Buglos	„	6*d.*	„	3
Burnet	„	6*d.*	„	3
Capsicum	„	1*s.*	„	3
Chilis	„	1*s.*	„	3
Clary	„	6*d.*	„	3
Fennel	„	6*d.*	„	3
Florence Fennel		6*d.*	„	3
Hyssop	„	6*d.*	„	3
Lavender	„	1*s.*	„	3
Marjoram, pot	„	1*s.*	„	3
— Sweet	„	1*s.*	„	3
Marigold, pot	„	6*d.*	„	3
Rosemary	„	1*s.*	„	3
Rue	„	1*s.*	„	3
Wormwood	„	6*d.*	„	3
Sage	„	6*d.*	„	3
Savory, Sum	„	1*s.*	„	3
— Winter	„	1*s.*	„	3
Thyme	„	1*s.*	„	3
Tobacco (fumigating)			„	3

ROOTS, PLANTS, &c.

The Prices variable.

Artichokes	per bush.
Asparagus, all sorts	per 100
Garlic	per lb.
Horse Radish	per doz.
Mushroom Spawn	per bush.
Potatoe, early forcing	
Late varieties	
New ditto	
Rhubarb Roots, all sorts,	each.
Shallots	per lb.
Sea Kale	per 100
Strawberry Plants	„
Raspberry Plants	„

AGRI-HORTICULTURAL SOCIETY

OF

WESTERN INDIA.

THE Society beg to announce that they have made arrangements with Messrs. PAGE & SON, of Southampton, for the arrival of a large assortment of fresh Culinary Vegetable and Flower Seeds at three periods of the year, viz., in March, June, and September; and as they will be dispatched by the Overland Route, it is confidently expected that they will arrive in such fresh condition as to ensure their giving satisfaction.

VEGETABLE SEEDS.	Per ounce. Rs.	As.	P.	VEGETABLE SEEDS.	Per ounce. Rs.	As.	P.
Cabbage, Sugar loaf	1	0	0	Long Prickly Cucumber	0	8	0
Do. Drumhead	1	0	0	London Flag Leek	1	0	0
Do. Nonpareil	1	0	0	Paris Cos Lettuce	1	0	0
Do. Large York	1	0	0	White Cabbage Lettuce	1	0	0
Do. Red for Pickling	1	0	0	Brown Dutch do.	1	0	0
Cauliflower, Early	2	0	0	Malta, or Drumhead do.	1	0	0
Do. Late	2	0	0	Mustard	0	8	0
Red Beet	1	0	0	Common Parsley	0	8	0
Turnip rooted do.	1	0	0	Fine Curled do.	0	8	0
Early white Malta Brocoli	1	4	0	Noll Koll	1	0	0
White Cape do.	1	4	0	Spinach, Prickly	0	8	0
Fine White Celery	1	0	0	Do. Round	0	8	0
Do. Red do.	1	0	0	Turnip, Red and White	1	0	0
Page's Giant White do.	1	0	0	Radishes of sorts	1	0	0
Turnip rooted do.	1	0	0	Tomato, Large	1	0	0
Common Cress	0	8	0	Peas and Beans, 1lb.	2	0	0
Vegetable Marrow	0	8	0				